Table of Contents

Title 56
PUBLIC WORKS

Part I. Water Wells

Chapter 1. Registering Water Wells 1
Chapter 3. Water Well Construction 14
Chapter 5. Plugging and Sealing of Abandoned Water Wells and Holes 23
Chapter 7. Installing Control Devices on Free Flowing Water Wells 32

Part III. Flood Control and Water Management

Subpart 1. Water Resources and Flood Control

Chapter 1. Funding of Water Resources 35
Subchapter A. Priorities for Funding of Water Resources Projects 35
Subchapter B. Project Priority Ranking System 38
Chapter 3. Statewide Flood Control Program 40
Subchapter A. Procedures for Implementing Statewide Flood Control Program 40
Subchapter B. Pre-Application 42
Subchapter C. Application 45
Subchapter D. Evaluation of Proposed Projects and Distribution of Funds 57
Chapter 5. Funding Applications 61
Chapter 7. Dam Safety Program 61
Subchapter A. Dam Safety 61
Subchapter B. Figures and Forms 68

Subpart 2. Port Construction and Development Priority Program

Chapter 21. Louisiana Port Construction and Development Priority Program 71
Chapter 23. Louisiana Port Construction and Development Priority Program Procedural Manual 83

Index 93

Title 56
PUBLIC WORKS
Part I. Water Wells

Chapter 1. Registering Water Wells

§101. Authorization

A. The Louisiana Department of Transportation and Development, Office of Public Works revised the rules, regulations and standards for water well registration, construction, plugging and abandonment, installation of control devises on free flowing wells and licensing of water well contractors and other drillers under the authority given in R.S. 38:2091-38:3098.8.

B. The Louisiana Department of Transportation and Development, Office of Public Works, hereafter referred to as *department*, is responsible for registering water wells and holes in Louisiana.

C. The rules, regulations and procedures, stated herein, will become effective on November 1, 1985 and supersede the rules, regulations and procedures in effect since July 1, 1975.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:950 (October 1985).

§103. Purpose

A. The purpose of the rules, regulations and procedures for registering water wells and holes, stated herein, is to ensure that water wells and holes are properly constructed; to collect, catalog and store water well construction and drilling data; and to gather data on water resources of the state. The data obtained from he registration forms are stored on computer files and are readily available for use by hydrologists, engineers, geologists, drillers and others who are involved in the administration, development, protection, and the wise use of the ground water resources of the state.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:950 (October 1985).

§105. Registration of Water Wells and Holes Completed on or after November 1, 1985

A. The contractor who drills or constructs a well or hole on or after November 1, 1985 shall be responsible for registering that well or hole by submitting to the department a completed Water Well Registration Form within 30 calendar days after completing such well or hole. Registration requirements shall apply to all water wells, regardless of yield or use, including but not limited to, public supply, domestic, irrigation/agriculture, power generation, rig-supply, observation, dewatering, monitoring, and heat pump supply wells, as well as test holes, abandoned pilot holes, and heat pump holes. For glossary of terms, refer to §109 of this Chapter.

B. Exemption from Registration. The following wells and holes shall be exempt from registration requirements:

1. wells producing saline water in connection with oil or gas production;

2. driven wells or wells dug by use of hand auger;

3. geotechnical boreholes.

C. Water Well Registration Long Form (DOTD-GW-1). Water Well Registration Long Form (DOTD-GW-1) shall be used to register the following types of wells and holes:

1. community public supply wells;

2. noncommunity public supply wells;

3. industrial wells;

4. irrigation/agricultural wells;

5. power generation wells;

6. observation wells;

7. dewatering wells;

8. test holes.

For a sample copy of the long form and instructions for completing the form see §117.

D Water Well Registration Short Form (DOTD-GW-1S). Water Well Registration Short Form (DOTD-GW-1S) shall be used to register the following types of wells and holes:

1. domestic wells;

2. rig-supply wells;

3. monitoring wells;

4. heat pump supply wells;

5. heat pump holes (closed loop system);

6. abandoned pilot holes.

For a sample copy of the short form and instructions for completing the form see §119.

E. Submission of Water Well Registration Forms

1. The contractor who drills a well or hole shall complete and submit to the department the original copy of the Water Well Registration Form within 30 calendar days after each well or hole has been completed. The owner's copy shall be sent to the owner immediately after completion of the work and the contractor shall retain the contractor's copy for his files.

2. For registration purposes only, the department considers a well or hole completed when it is accepted by the owner or when the contractor has moved his equipment from the site, whichever comes first. Acceptance by the owner or removal of equipment from the site by the contractor does not imply, in any way, acceptance or approval by the state of Louisiana. The department, after inspection of the site and records, can cause the owner and/or the contractor to do whatever additional work is necessary to bring the well or hole up to standards. The expense for the additional work shall be borne by the owner/or the contractor, as the case may be.

3. For the purpose of registering heat pump holes only, one form (DOTD-GW-1S) per project (site) will suffice. Under item marked "remarks", materials and method used to seal the holes shall be indicated. Description of cuttings, required by Item 12, should be the typical formations encountered at the site.

4. Registration forms may be submitted to the department on a monthly basis as long as the 30-day limitation is not exceeded. Forms that are illegible, have incomplete items, lack a sketch or directions to the well, or have not been signed and dated will be rejected by the department and will be returned to the contractor for correction and resubmittal. It is the responsibility of the contractor to see to it that the submitted registration forms are actually received by the department.

5. Each registration form shall be personally signed and dated by the contractor who is responsible for drilling the well or hole. For convenience of the contractor, affidavits filed by the contractor to authorize office personnel to sign forms on his behalf will be accepted by the department.

6. Upon receipt of the registration forms, the department will review and process each form, including field inspection, if necessary, and will assign an identification number to each well after which the well is considered registered. The well data will then be entered into the computerized data file and, upon request, the owner and/or the contractor will be informed of the fact of registration and of the assigned identification number.

F. Copies of Available Data Which Shall Be Attached to Registration Forms. The water well contractor who is responsible for drilling a public supply, industrial or power generation water well or test hole, shall attach to the registration form copies of the following items (if available for transmittal) to the department:

1. electrical log or other borehole geophysical log;

2. mechanical analysis of the drill cuttings;

3. chemical analysis of the water;

4. aquifer test results.

G. Registration of Reworked Water Wells

1. Registered wells that are reworked (e.g., removing and replacing the screen; redeveloping the well) need not be registered a second time unless the screen setting is altered or a liner is installed inside the original casing. If the registered well, after reworking, obtains water from an aquifer different from that reported on the original registration form, another registration form shall be submitted by the contractor within 30 calendar days after completion of the work.

2. If an unregistered well is reworked, deepened or changed in any manner or if screen setting is altered, the proper registration form (either DOTD-GW-1 or DOTD-GW-1S) shall be submitted to the department by the contractor no later than 30 calendar days after the work has been completed.

H. Registration of Subcontracted Water Wells. When a water well contractor agrees to construct a water well for a customer but subcontracts the work to another water well contractor, the following registration procedure shall govern:

1. the subcontractor who drills the well shall keep an accurate record of the pertinent data to be used in completing the registration form; however, the name and license number of the original contractor must be shown on the upper right-hand corner of the registration form, and it is the original contractor who is responsible for signing and transmitting the form to the department in accordance with the procedures outlined in §105.B. The subcontractor may write his or his company's name and license number at the space designated for "remarks."

I. Registration of Rig-Supply Water Wells

1. In order to register a rig-supply water well, each registration form must be accompanied by a copy of the "registered" permit plat reflecting the section, township, range and the distances from the section lines to the location of the well (oil, gas, injection, etc.). The plat will be used by the department to determine the latitude and longitude of the well which will then become the identification number for that rig-supply water well. The water well contractor who drilled the water well shall obtain a copy of the plat from the company in charge of the drilling of the oil or gas well (lessee) or from the operator of the oil or gas drilling rig and shall attach it to the registration form for transmittal to the department. Alternatively, the water well contractor may send the registration form to the lessee with appropriate instructions for them to attach the plat to the registration form and transmit it to the department.

2. The lessee or the operator shall furnish the water well contractor with the required plat in a timely manner so that the 30-day limitation for water well registration is not exceeded.

J. Registration of Monitoring Wells. Although construction of monitoring wells for facilities regulated by the Department of Environmental Quality (DEQ) requires approval from that department prior to construction, they shall be registered with the Department of Transportation and Development, like all other water wells, as part of the state's effort to catalog well sites and to collect and provide data on the geohydrological system. In order to register a monitoring well, the drilling contractor, in addition to

completing all items on Water Well Registration Short Form (DOTD-GW-1S), must also complete the spaces provided for the latitude and longitude of the well location, as well as the section, township and range. The latitude and longitude of the well, which can be determined from the appropriate quadrangle map, is used as the identification number (Column 12 to 26) for that monitoring well. Column 26 is used to indicate number of registered wells located within the same latitude and longitude (within 100 feet).

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:950 (October 1985).

§107. Registration of Water Wells Completed Prior to November 1, 1985

A. Because many water wells have already been inventoried by the department, the procedures for registering wells completed prior to November 1, 1985 are dependent on whether or not the wells have been inventoried and their records are available to the department.

B. Registration of Inventoried Water Wells Completed Prior to November 1, 1985 Whose Records Are Available to the Department

1. The department will obtain from available data a listing, by owner, of wells and pertinent data. A copy of the list will either be sent to the owner for checking and updating, or will be checked and updated by a representative of the department with assistance from the owner.

2. If the list is sent to the owner for checking and updating, the owner shall be responsible for updating the list by indicating the current status of each registered well, by adding wells not on the list and by indicating wells that have been abandoned. The owner shall then certify the list as current and correct and shall return the list to the department within 30 calendar days after receiving the list. When the corrected and certified list is received by the department, the wells added to the list by the owner shall be inventoried and registered by a representative of the department.

3. If, in the opinion of the department, a visit or telephone contact by a representative of the department is preferable and more convenient to the owner than sending a list of wells, a field visit or telephone contact will be made by a representative of the department. After the data are verified and the well locations are checked, any well not on the list will be inventoried and registered by the representative of the department.

4. Upon request, the owner will be sent an updated listing of registered wells for which he is responsible.

C. Registration of Water Wells Completed Prior to November 1, 1985 Which Have Not Been Inventoried and Whose Records Are Not Available to the Department

1. All wells used to supply a public water system regardless of yield, and all other water wells capable of producing more than 50,000 gallons per day, which were constructed on or after July 1, 1975, shall be registered by the owner by completing a water well registration long form (DOTD GW-1) for each well and sending them to the department for verification and registration within 90 calendar days after the effective date of these regulations.

2. The owner may register any uninventoried water well, not covered under Item A of the form, by completing an appropriate registration form and sending it to the department for verification and registration.

3. The department's representative may contact the owner to obtain well data and check and verify the location of wells that have not been inventoried and whose records are not on file with the department. After receiving the pertinent data and locating the wells, the department will register the wells accordingly.

4. The owner shall make available any needed data for registering uninventoried wells and shall permit access to the well sites. Upon request, the owner will be informed of the fact of registration and of the assigned identification number.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:951 (October 1985).

§109. Use of Information Obtained from Registration Forms

A. Information obtained from registration forms will be available to all persons upon request. The well data will be coded and entered into the department's computerized data file and will be integrated with water well data systems operated by other governmental agencies and research groups, as needed. Copies of the registration forms or computerized listings of the registered wells should fulfill the need of water districts, commissions or other state agencies; thus eliminating the need for a second set of registration forms.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:952 (October 1985).

§111. Enforcement Actions

A. Provisions addressing enforcement of this Chapter appear in R.S. 38:3096, as follows.

1. Whoever knowingly and willingly violates a provision of this Chapter, or a rule, regulation or order of the director or a board hereunder, shall be subject to a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation if a penalty for the violation is not otherwise provided in this Chapter.

a. The place of suit to recover this penalty shall be selected by the director or board, as may be appropriate, in the district court of the parish in which any one of the defendants resides, or in the district court of the parish where the violation took place.

b. Suit shall be at the direction of the director or board, as may be appropriate, and shall be instituted and conducted in his or its name by the attorney general or by the district attorney of the district under the direction of the attorney general.

2. Whoever knowingly and willfully aids or abets a person in the violation of a provision of this Chapter, or in any rule, regulation or order made hereunder shall be subject to the same penalties provided herein for the principal violator.

B. Falsification of Documents. Falsification of documents to evade regulations, as well as penalties for said falsifications, appears in R.S. 38:3095 as follows.

1. No person shall, for the purpose of evading this Chapter or any rule, regulation or order made thereunder:

a. make, or cause to be made, any false entry or statement of fact in any report required to be made by this Chapter, or by any rule, regulation or order made hereunder; or

b. make, or cause to be made, any false entry in an account, record or memorandum kept by any person in connection with the provisions of this Chapter or of any rule, regulation or order made thereunder; or

c. remove out of the jurisdiction of the state or destroy or mutilate, alter, or by any other means, falsify any book, record or the paper pertaining to the matters regulated by this chapter, or by any rule, regulation or order made thereunder.

2. Whoever violates this Section shall be fined not more than $5,000 or imprisoned not more than six months or both.

3. The penalty provision for falsification of documents required under the provisions of this Chapter are therefore criminal in nature and will be enforced through the district attorney having jurisdiction where said violation occurs. It should also be noted that utilization of the United States Mail in the falsification of documents constitutes a violation of Title 18 of the United States Code (Mail Fraud), and such violations will be referred to the, appropriate United States Attorney.

C. Appeals. An alleged violator may appeal any order of the department by requesting a hearing. The hearing request must be made to the department, in writing, within 30 calendar days of the original order and must be sent by "Certified Mail-Return Receipt Requested." After receiving the request, the department will arrange a hearing to determine what other remedial action will serve to effect compliance with the rules and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:952 (October 1985).

§113. Definitions

A. Glossary of Terms. Letter in parentheses is the number of the reference found in §115 which is the source of the definition.

Abandoned Well a well is considered to be abandoned if:

a. its use has been permanently discontinued;

b. its pumping equipment has been permanently removed;

c. the well is in such a state of disrepair that it cannot be used to supply water, and/or has the potential for transmitting surface contaminants into the aquifer;

d. the well poses potential health or safety hazards ; or

e. the well is in such a condition that cannot be placed in the active, standby or inactive status.

Active Well a well is considered to be active if it is an operating well used to supply water.

Annular Space the space between the drill hole and the well casing.

Aquifer a formation, group of formations, or a part of a formation that contains sufficient saturated material to yield significant quantities of water to wells. (E)

Aquifer Test aquifer or pumping tests are made in water wells to obtain information about the performance and efficiency of the well being pumped, and/or to obtain data from which the hydraulic characteristics of the aquifer can be calculated. The test made to determine hydraulic characteristics of an aquifer is usually referred to as *aquifer test*.

Artesian (Confined Ground Water) when the water level rises above the top of the aquifer which the well taps, the aquifer is assumed to be *artesian*. An artesian well flows only when the water level is above land surface. (E)

Assistant Secretary the assistant secretary of the Department of Transportation and Development, Office of Public Works, or his designee.

Bacteriological Analysis this analysis, usually for drinking water, consists of a laboratory report indicating the presence or absence of coliform bacteria in a given water sample, as determined by laboratory procedure.

Bentonite Slurry a mixture of bentonite and water, weighing not less than 9 pounds per gallon.

Casing a tubular retaining structure, generally metal or PVC which is installed in a drilled, bored, driven, or augured hole to maintain the well opening.

Cement-Bentonite Slurry a mixture of cement, bentonite and water, consisting of not more than 8 percent bentonite by dry weight of cement and a maximum of 10 gallons of water per sack (94 pounds) of cement. Additives, in the approved and proper ratio, may be added to the slurry if required.

Chemical Analysis a chemical analysis is usually a report of dissolved minerals in the water and the water's physical properties, such as temperature and color. The minimum chemical properties that are usually determined are hardness, specific conductance, hydrogen-ion concentration (pH), dissolved solids, chloride, bicarbonate, iron, fluoride and nitrate.

Coarse Ground Bentonite a processed bentonite used to seal well casings and to plug holes. Coarse ground bentonite is placed by pouring from surface or pumping from the bottom to surface. An approved inorganic polymer may be used to retard swelling of the bentonite.

Community Public Supply Water Well a public supply well which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. A community public supply well may be owned by a municipality or community, a water district, a corporation, a private individual or by a local, state or federal governmental agency.

Contaminant any undesirable physical, chemical, biological, or radiological substance or matter in water. (F)

Contamination any introduction into water of microorganisms, chemicals, wastes, or waste-water in a concentration that makes the water unfit for its intended use. (D)

Contractor the word *contractor* in these regulations is used to refer to any person, firm or corporation who is licensed to engage in the business of drilling, reworking or installing water wells, monitoring wells, heat pump wells or holes, geotechnical boreholes, and/or plugging and abandoning wells or holes, excluding oil and gas wells.

Department the Louisiana Department of Transportation and Development, Office of Public Works.

Dewatering Well a water well installed to dewater an aquifer or lower a water table in order to allow construction or mining activities.

Disinfection the killing of a large proportion of microorganisms in or on a substance with the probability that all pathogenic microorganisms will be killed.

Ditch a man-made excavation dug to convey surface water for drainage purposes or irrigation.

Director or a Board see *Assistant Secretary*.

Domestic Well a water well used exclusively to supply the household needs of the owner/lessee and his family. Uses may include drinking, cooking, washing, sanitary purposes, lawn and garden watering and caring for pets.

Drawdown the difference, usually in feet, between the static (nonpumping) water level and the pumping level in a well after the well has been pumped for a specified period of time.

Drill Cuttings samples of the material obtained during drillings and are the source of lithologic information needed for proper selection of screen openings. A principal objective of drilling test holes is to obtain samples. (A)

Driller see *Contractor*.

Drilling the word *drilling* in these regulations is used to refer to the drilling, boring, coring, driving or augering of a well or hole.

Drilling Contractor see *Contractor*.

Driller's Log a driller's log is the driller's description of the geologic strata encountered, their thickness and depth. (A)

Drilling Mud a fluid composed of water and clay (either native clay or a combination of native and commercial clays) used in drilling operations to remove cuttings from the hole, to clean and cool the bit, to reduce friction between the drill stem and the sides of the hole, to seal the sides of the hole, to prevent caving, bridging or loss of circulation, and to prevent the interchange of water between aquifers. When permitted, drilling mud may be used as filler or plugging material, provided it weighs not less than 9 pounds per gallon.

Electrical Log a record of the resistivities of the subsurface formations and the contained fluid and spontaneous potentials generated in the borehole, both plotted in terms of depth below some datum, such as land surface. Similar logs commonly made in boreholes are the induction logs. Other borehole geophysical logs that also may be available are the gamma ray, caliper and neutron logs.

Flood Prone Area an area subject to a 100-year flood level as established by the administering agency for the Federal Flood Insurance Program.

Free Flowing Water Well an artesian well which is allowed to flow, under natural conditions, at or above the ground surface.

Geopressured Aquifer a term used for an aquifer, especially in the Gulf Coast Area, in which the fluid pressure exceeds the normal hydrostatic pressure of 0.465 pounds per square inch per foot of depth. (B)

Geotechnical Borehole an exploratory borehole drilled, augured, bored or cored to obtain soil samples to be analyzed for chemical and/or physical properties.

Geothermal pertaining to the internal heat of the earth.

Gravel-Packed Well a well in which properly graded gravel or coarse sand is hydraulically placed in the area immediately surrounding the screen or slotted pipe used as a screen to increase the effective diameter of the well, to stabilize the aquifer and to prevent sand from entering the well.

Ground Water water percolating below the earth's surface.

Health Hazard any condition that may create a danger to public health and well being.

Heat Pump Hole a hole drilled to install piping for an earth-coupled water source heat pump system, also known as a vertical closed-loop system.

Heat Pump Supply Well a water well which supplies ground water to a heat pump heat exchanger.

Industrial Well a well used to supply water for plants that manufacture, process or fabricate a product. The water may or may not be incorporated into the product being manufactured. The water is usually used to cool machinery, to provide sanitary facilities for employees, to air condition the plant, and water grounds at the plant. Water used for mining or processing ore, such as gravel, is included in the industrial category.

Inactive Well a well is considered to be inactive if it is not presently operating but is maintained in such a way that it can be put back in operation with a minimum of effort to supply water.

Irrigation/Agricultural Well a well used for irrigating cultivated plants, for watering stock, for crawfish and catfish farming, and for similar agricultural activities. Most irrigation wells supply water for farm crops, but this category also includes wells that are used for watering parks, golf courses, cemeteries and wells which are used exclusively for watering lawns in urban areas.

Lessee see *Owner*.

Monitoring Well a well used to obtain hydrologic and water quality data, usually installed at or near a known or potential source of ground water contamination.

Neat Cement a mixture of cement and water, consisting of not more than 5 gallons of water per sack (94 pounds) of cement.

Noncommunity Public Supply Well a public supply water well which serves either fewer than 15 service connections or fewer than 25 year-round residents or no year-round residents. Examples of the former case are small public water supplies for mobile home parks, subdivisions, etc. which fall below the 15 connections/25 persons criteria for community water supplies. The latter case includes public water supplies which serve no year-round residents, such as bars and lounges, motels, camps, office buildings, restaurants, rest stops, service stations, recreational facilities, schools, commercial establishments, etc.

Observation Well a well used by the owner, by governmental agencies, or by an appropriate engineering or research organization to obtain information on the water resources of an area.

Owner individual, corporation, association, partnership, institution or governmental agency who is either the legal owner of the property on which the well or hole is located or is holding a long-term lease on the property.

Permeability a measure of the relative ease with which porous media can transmit a liquid under a potential gradient. Sands have a higher permeability than clays.

Pilot Hole a hole drilled with the intent to install casing and to produce water. It is usually of a smaller diameter than the proposed well and has to be reamed to a larger diameter for the installation of casing and screen.

Plumbness the variation with depth of the center line of the well from a vertical line drawn through the center of the well at the top of the casing. (C)

Pollution a condition created by harmful or objectionable material in water. (D)

Potable Water water whose bacteriological, physical and chemical properties make it suitable for human consumption.

Power Generation Well a well used to supply water for generation of any type of power.

Private Well see *Domestic Well*.

Public Supply Water Well a well which provides water for drinking, cooking or washing use by the public, or transients, or by persons other than the immediate family of the owner of the supply. A public supply water well may be either a community water well or a noncommunity water well.

Pump-Down Method a positive displacement method for placing grout or slurry material by pumping or forced injection by air pressure.

Pumping Test see *Aquifer Test*.

Pumping Water Level the water level in a well which is being pumped, usually expressed in feet above or below a specific datum, such as land surface.

PVC Well Casing a polyvinyl chloride plastic pipe conforming to current AWWA Standard A-100 and/or ASTM F-480 Standard for water well casing.

Registered Permit Plat a land surveyor's plat showing section, township, range, and the distances from the section lines to the location of the well (oil, gas, injection, etc). The permit plat is submitted to the Office of Conservation with the oil or gas well permit application.

Registered Well an inventoried well that has been assigned an identification number by the department and whose records are available.

Reworking Water Well rehabilitation or modification of a water well to increase its efficiency, restore its capacity, and/or improve its water quality. Methods of reworking water wells include removing and replacing the screen, regravel packing the screen, placing a new screen within the old screen, placing a liner pipe within the old casing or redeveloping a well by surging, adicizing, jetting, etc.

Rig-Supply Well a water well drilled at an oil or gas drilling site to supply water for drilling and/or other oil field related activities.

Saline Water water with a dissolved solids content of 1,000 milligrams per liter (parts per million) or more.

Sanitary Seal a suitable threaded, flanged, or welded water-tight cap or compression seal installed at the top of the wellcasing so as to prevent the entrance of contaminated water or other objectionable material into the well.

Sanitary Sewer an underground conduit that conveys domestic, commercial or industrial sewage.

Screen a structural tubular retainer, usually metal or PVC, used to support the hole in unconsolidated material with openings which are selected on the basis of adopted standards, and which allows sand free water to flow freely into the well in ample quantities and with a minimum loss of head. In agricultural wells, slotted pipe is sometimes used as a screen.

Seepage the slow movement of water and/or other fluids through the soil into the subsurface.

Septic Tank an underground water-tight tank which receives sewage.

Specific Capacity the rate of discharge of water from a well divided by the drawdown of water level within the well for a specified period of continuous pumping of the well. It is usually expressed as "gallons per minute per foot of drawdown after (specified) hours of continuous pumping."

Standby Well a well is considered to be a standby if it is used in emergencies or occasionally used to supply water.

Static Water Level static water level is the nonpumping water level in a well that has not been in operation for a period of time and is usually expressed in feet above or below a specified datum, such as land surface.

Stream a natural channel or water course which conveys surface and subsurface runoff.

Storm Sewer an underground conduit used for covering surface water.

Subsidence a local mass movement that involves principally the downward settling or sinking of the earth's surface with little or no horizontal motion. (B)

Subsurface Absorption Fields an underground area containing a bedding of aggregate with distribution lines to permit disposal of septic tank effluent.

Test Hole an exploratory borehole drilled to obtain geologic, hydrologic and water quality data.

Test Well see *Test Hole*.

Underground Injection the subsurface implacement of fluids by well injection. (F)

Underground Water see *Ground Water*.

Uniformity Coefficient the uniformity coefficient is the number expressing the ratio of the 40 percent size of the material to its 90 percent size. Size refers to the percentage by weight retained on a given sieve.

Vent (Breather Pipe) a screened outlet at the upper end of the well casing to allow equalization of air pressure in the well and the escape of gases.

Water Well Contractor see *Contractor*.

Well Cap a removable, usually water-tight device used to cover an opening into the well casing and is threaded, bolted or otherwise attached to the casing to prevent easy entry by other than the owner and to prevent the entrance of any contaminant or other objectionable material into the well.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3098 -38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Highways, LR 1:969 (May 1975), amended LR 11:969 (October 1985).

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AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3098 -38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Highways, LR 1:969 (May 1975), amended LR 11:971 (October 1985).

§117. Water Well Registration (Long Form)

Editor's Note: The telephone number listed in §117, Form B and in §117.M.2 has been changed to (225) 274-4172.*

Form B. Instructions for Completing Water Well Registration Long Form (DOTD-GW-1)

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
WATER RESOURCES SECTION
WATER WELL REGISTRATION LONG FORM (DOTD-GW-1)

PLEASE PRINT IN INK OR TYPE WHEN COMPLETING THIS FORM

1. Well Owner _____ Phone ( ) _____
   Address _____
   _____
   Owner's Well Number or Name (If Any) _____

2. LOCATION OF WELL: Parish _____ Well is Near _____ (Town, City)
   Approximately _____ miles from _____ Crossroads, Railroad, Any Landmark, etc.)
   _____ (Please draw sketch on back of Original Form)

3. WELL INFORMATION: Ground elevation _____ ft. M.S.L. Depth of Hole _____ ft.
   Diameter of Hole _____ in. Depth of Completed Well _____ ft.
   Is well gravel-packed? Yes ☐ No ☐ Date Completed _____
   NAME OF THE PERSON WHO DRILLED THE WELL: _____

4. CASING AND SCREEN INFORMATION
   CASING: TYPE _____ SCREEN: TYPE _____
   _____ in. from _____ ft. to _____ ft. _____ in. from _____ ft. to _____ ft.
   _____ in. from _____ ft. to _____ ft. _____ in. from _____ ft. to _____ ft.
   _____ in. from _____ ft. to _____ ft. _____ in. from _____ ft. to _____ ft.
   Extension Pipe _____ in. from _____ ft. to _____ ft.
   Cemented from _____ ft. to ground surface
   Pumpdown cementing method used: ☐ Inside casing ☐ Outside casing

5. WATER LEVEL AND YIELD INFORMATION: On _____ (Date) the static water level in well was _____ ft.
   ☐ below ☐ above ground surface. How determined? _____ The pumping water level was _____ feet below ground surface. The well yielded _____ gpm with a drawdown of _____ ft. after _____ hours of continuous pumping on (date) _____ Describe how yield was measured _____ It is planned to pump the well at a rate of _____ gpm for _____ hours per day for _____ days per year. Proposed average daily pumping rate: _____ gallons. Motor HP _____ Pump setting _____ ft.

6. USE OF WELL (Check Appropriate Box)
   ☐ Irrigation/Agricultural ☐ Industrial ☐ Community Public Supply ☐ Power Generation
   ☐ Dewatering ☐ Observation ☐ Non-Community Public Supply ☐ Test Hole
   ☐ OTHER (Please Specify) _____
   (If industrial or public supply is checked please see bottom of this form)

7. AVAILABLE INFORMATION (Check Appropriate Boxes)

	YES	NO	
Is an electrical log or other borehole geophysical log available?	☐	☐	(If yes, please attach a copy of log)
Is a mechanical analysis of the drill cutting available?	☐	☐	(If yes, please attach a copy)
Is a chemical analysis of water available?	☐	☐	(If yes, please attach a copy)
Is a bacteriological analysis available?	☐	☐	(If yes, please attach a copy)
Are aquifer test results available?	☐	☐	(If yes, please attach a copy)

8. ABANDONMENT INFORMATION: (Check Appropriate Boxes)
   If well is new does it replace an existing well? YES ☐ NO ☐
   If yes, has owner been informed of state regulations requiring plugging of abandoned wells? YES ☐ NO ☐

9. REMARKS (Such as engineer, pump information, acreage irrigated, water well subcontractor and license no., etc.) _____

10. DRILLER'S LOG (Description and color of cuttings, such as, shale, sand, etc. in feet below ground level)

FROM	TO	DESCRIPTION	FROM	TO	DESCRIPTION	FROM	TO	DESCRIPTION

(If necessary, continue log on back of original form.)

PUBLIC SUPPLY: (If well is for public-supply purpose please check one of the following to indicate principal category of public-supply use.)
☐ Municipal ☐ Therapeutic
☐ Rural ☐ Institutional/Government
☐ Commerical ☐ Other _____ Please Specify

INDUSTRIAL: (If well is for industrial purpose please check one of the following to indicate the standard industrial category representing the principal industrial use).
☐ Food and Kindred Products ☐ Paper and Allied Products
☐ Textile Mill Products ☐ Chemicals and Allied Products
☐ Lumber & Wood Products (Except Furniture). ☐ Petroleum Refining & Related Industries
☐ Other _____ Please Specify ☐ Primary Metal Products

(REV. 9/92)

DOTD'S COPY

Name of Water Well Contractor
LICENSE NUMBER WWC- _____
Authorized Signature (Date)

MAIL ORIGINAL TO:
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
ATTN: CHIEF - WATER RESOURCES SECTION
P.O. BOX 94245
BATON ROUGE, LA 70804-9245
(504) 379-1434

FOR OFFICE USE ONLY
STATE 22 PARISH WELL NO. -
IDENTIFICATION NUMBER
REVISED COORDINATES
Geologic Unit
Use of Well
SECTION TOWNSHIP RANGE
ELEV. QUAD NO.
INPUT BY: _____ DATE: _____
INSPECTED BY: _____
INSPECTION DATE: _____
REMARKS: _____

A. The Water Well Registration Long Form (DOTD-GW-1) consists of a set of three copies. The first copy (marked DOTD copy) is to be mailed by the water well contractor within 30 calendar days after the well has been completed to:

Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245.

B. The second copy of the form is to be retained by the water-well contractor for his files, and the third copy is to be given to the well owner immediately upon completion of the work.

C. Although most of the information needed to complete the form is available to the water well contractor, the following explanation will provide clarification of intent and uniformity of reporting.

D. Item 1. Owner List the name of the legal owner of the property on which the well is located or the person or company holding a long-term lease on the property. If the owner or lessee is an individual, list first and last names and middle initial of individual. List area code and telephone number of owner in the spaces provided.

1. Address. The address should be that of the owner. If the well is owned by an industry, the local address of the firm is preferred in order that additional data on the well may be easily obtained by the state or a regional water district or commission.

2. Owner's Well Number. Many cities, institutions, industrial plants, and large farms have their own system of designating or identifying wells by number and/or name. This information is useful when locating the well and should be entered on the form.

E. Item 2. Location of Well List the parish where the well is located, including the nearest town, city, etc., and give directions to the well site. The location of the well should be described in detail and as accurately as possible so that the well can be easily located by the department's field inspector. Please draw a sketch on the back side of the original form, showing location of well with reference to roads, railroads, buildings, etc. Use an (X) to indicate location of the well. Show location of nearest existing well(s), if any nearby, by marking (0s), and approximate distance between wells.

F. Item 3. Well Information Required data are available from water well contractor's and/or engineer's report.

G. Item 4. Casing and Screen Information Required data are available from water well contractor's and/or engineer's report. By type of screen indicate whether it is "bar lug" rib type, slotted pipe, etc. State whether casing is plastic or metal. Indicate the depth to which the annular space was cemented and state method of cementing.

H. Item 5. Water Level and Yield Information Most of the information entered in this item can usually be obtained from the water well contractor's or engineer's report. Except for "static water level," the terms need no explanation. Static water level is "the nonpumping water level in a well that has not been in operation for a period of time and is usually expressed in feet above or below a specified datum, such as land surface." The owner should be able to provide information on proposed use and pumping rate.

I. Item 6. Use of Well The principal purpose for which water from the well is used should be indicated by checking the appropriate box on the form. If water is used for more than one purpose, only the principal or primary use should be shown. If the planned use of water is unknown or does not fit one of the specified uses, this should be noted in the space marked "other." Following are explanations of the terms used on the well registration form to indicate the principal use of water from a well:

1. Irrigation/Agricultural. Refers to the use of water to irrigate cultivated plants, to water stock, for crawfish and catfish farming, and for similar agricultural activities. Most irrigation wells supply water for farm crops, but this category also includes wells that are used for watering parks, golf courses, and cemeteries. Occasionally a home owner in an urban area has a well used solely for watering a lawn. This well also should be in the agricultural and irrigation category.

2. Industrial. Includes plants that manufacture, process or fabricate a product. The water may or may not be incorporated into the product being manufactured. Industrial water may be used to cool machinery, to provide sanitary facilities for employees, to air-condition the plant, and water grounds at the plant. Water used for mining or to process ore such as gravel pits is included in the industrial category. Planning and water-use needs can be implemented by dividing this category into the following standard industrial categories that predominate in Louisiana. Please refer to bottom of the water well registration form and indicate the principal category of industrial use. The categories are defined as follows:

a. Food and Kindred Products. This group includes establishments manufacturing foods and beverages for human consumption and certain related products, such as manufactured ice, vegetable oils, animal fats and oils, and prepared feeds for animals and fowl.

b. Textile Mill Products. This major group includes establishments engaged in performing any of the following operations:

i. preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine and cordage;

ii. manufacturing broad woven fabric, narrow woven fabric, knit fabric, and carpets and rugs from yarn;

iii. dyeing and finishing fiber, yarn, fabric, and knit apparel;

iv. coating, waterproofing, or otherwise treating fabric;

v. the integrated manufacture of knit apparel or other finished articles from yarn; and

vi. the manufacture of felt goods, lace goods, bonded-fiber fabrics, and miscellaneous textiles.

c. Lumber and Wood Products (except furniture). This major group includes sawmills, lath mills, shingle mills, cooperage stock mills, planning mills, and plywood and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes.

d. Paper and Allied Products. This major group includes the manufacture of pulp from wood and other cellulose fibers and rags; the manufacture of paper and paperboard; and the manufacture of paper and paperboard into converted products such as paper coated paper bags, paper boxes and envelopes.

e. Chemicals and Allied Products. This major group includes establishments manufacturing products by predominantly chemical processes. Establishments classified in this major group manufacture three general clashes of products:

i. basic chemicals such as acids, alkalies, salt, and organic chemicals;

ii. chemical products to be used in further manufacture such as synthetic fibers, plastic materials, dry colors, and pigments;

iii. finished chemical products to be used for ultimate consumption such as drugs, cosmetics and soaps; or to be used as materials or supplies in other industries such as paints, fertilizers, explosives. The mining of natural rock salt is classified in mining industries. Establishments primarily engaged in manufacturing nonferrous metals and high percentage ferroalloys are classified in the primary metals category and baking powder; other leavening compounds and starches in the food and kindred products category. Establishments primarily engaged in packaging, repackaging, and bottling of purchased chemical products are classified in traded industries of the standard industrial categories. Plastic materials and synthetic rubber are included in this category.

f. Petroleum Refining and Related Industries. This major group includes establishments engaged in petroleum refining, manufacturing paving and roofing materials, and compounding lubricating oils and greases from purchased materials. Establishments manufacturing and distributing gas to consumers are classified in public utilities industries, and those primarily engaged in producing coke and by-products in primary metals category.

g. Primary Metal Industries. This major group includes establishments engaged in the smelting and refining of ferrous and non ferrous metals; in the manufacture of castings, forgings, and other basic products of ferrous and nonferrous metals, and in the manufacture of nails, spikes, and insulated wire and cable. This major group also includes the production of coke.

h. Other. Please name the principal industrial output from the industry if not listed in the industrial categories on the form.

3. Public Supply. Refers to a well which provides water for drinking, cooking, or washing use by the public or transients, or by persons other than immediate family of the owner of the supply. A public supply water well may either be a community water well or a noncommunity water well, as follows.

a. Community Public Supply Water Well. A public supply well which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. A community public supply well may be owned by a municipality or community, a water district, a corporation, a private individual or by a local, state or federal governmental agency.

b. Noncommunity Public Supply Well. A public supply water well which serves either fewer than 15 service connections or fewer than 25 year-round residents or no year-round residents. Examples of the former case are small public water supplies for mobile home parks, subdivisions, etc., which fall below the 15 connections/25 persons criteria for community water supplies. The latter case includes public water supplies which serve no year-round residents, such as bars and lounges, motels, camps, office buildings, restaurants, rest stops, service stations, recreational facilities, schools, commercial establishments, etc.

c. Because public supply use includes many categories of use, requirements for planning and water-use surveys require a further break-down of this use; thus, public supply use is divided into the following categories: (A list is provided at the bottom of the registration form (refer to §117) so that the user may check the appropriate category of public supply use.)

d. Municipal. This category includes all wells used to supply the drinking, sanitation, and other needs of an urban area, e.g., Lake Charles, Ruston, etc. The well is generally owned by a utility company, a municipality or private individual.

e. Rural. The wells are used for the drinking, sanitation, and other needs of a rural area. Such systems generally are operated by a local water district or by private individuals.

f. Commercial

i. Wells that are used principally to supply a motel, hotel, restaurant, office complex, swimming pool, ice rink or other recreational facility; drive-in, trailer park or public summer camp.

ii. Where water is used commercially in the making of bottled drinks, the wells are in this category.

g. Therapeutic. Water that is used primarily for bathing and/or drinking and is purported to have therapeutic value is in this category. Water that is bottled and sold falls into this category, mainly because of its claimed therapeutic value.

h. Institutional/Government. Refers to wells used specifically in the maintenance and operation of an institution such as large schools, churches, universities, hospitals, rest homes, penal institutions, and other governmental installations.

i. Other. A well that is used for a purpose that does not fit into the above categories. Give details.

4. Power Generation. Refers to a well used to supply water for generation of any type or power.

5. Dewatering Well. This is a water well installed to de-water an aquifer or lower a water table in order to allow construction or mining activities.

6. Observation. Refers to a well used by the owner, by governmental agencies, or by an appropriate engineering or research organization to obtain information on the water resources of an area.

7. Test Hole. An exploratory borehole drilled to obtain geologic, hydrologic and water quality data.

8. Other. A well that is used for the purpose that does not fit into either the above categories or those listed on the short form (DOTD-GW-1S).

J. Item 7. Available Information Please check the appropriate boxes to indicate whether the specified logs or data were collected; if so, attach copies to the registration form for transmittal to the department.

K. Item 8. Abandonment Information If the well is new, specify whether or not it replaces an existing well. The water well contractor is responsible for informing the owner of the well of state regulations requiring plugging of abandoned wells. Check appropriate box, as this item is intended to serve as a reminder.

L. Item 9. Remarks This space can be used for presenting any other pertinent information, such as name of consulting engineer, screen openings, pump information, name of subcontractor, etc.

M. Item 10. Driller's Log Give a description of the materials encountered and depth. If space on front of the form is insufficient, continue driller's log on reverse side of original form or attach a copy of the driller's log to the original form to be transmitted to the department.

1. After completing all items, list the name of the water well contracting company and the license number on the space provided in the upper right-hand corner of the form. Sign and date the form and mail the original to the department at the address listed on the form within 30 calendar days after the well has been completed. The owner's copy shall be given to the owner immediately upon completion of the work. The contractor's copy shall be retained by the contractor for his files.

2. If there are any questions, please call or write:

Louisiana Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245
Phone: (225) 379-1434*

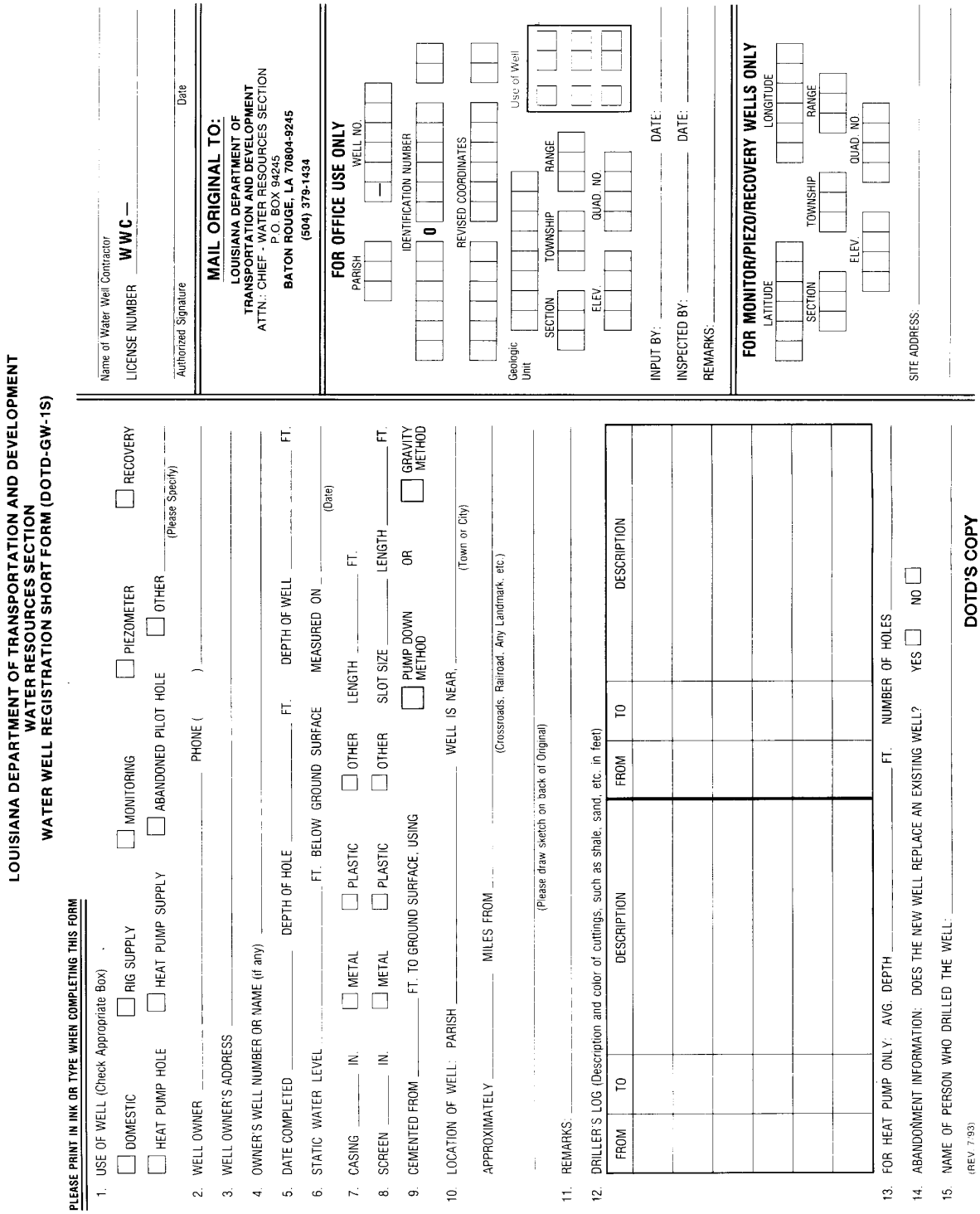
AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3098-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Highways, LR 1:249 (May 1975), amended LR 11:971 (October 1985).

§119. Water Well Registration (Short Form)

Editor's Note: The telephone number listed in §119, Form C and in §119.E has been changed to (225) 274-4172.*

Form C. Instructions for Completing Water Well Registration Short Form (DOTD-GW-1S)



LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
WATER RESOURCES SECTION
WATER WELL REGISTRATION SHORT FORM (DOTD-GW-1S)

PLEASE PRINT IN INK OR TYPE WHEN COMPLETING THIS FORM

1. USE OF WELL (Check Appropriate Box)
☐ DOMESTIC ☐ RIG SUPPLY ☐ MONITORING ☐ PIEZOMETER ☐ RECOVERY
☐ HEAT PUMP HOLE ☐ HEAT PUMP SUPPLY ☐ ABANDONED PILOT HOLE ☐ OTHER (Please Specify)
2. WELL OWNER PHONE ( )
3. WELL OWNER'S ADDRESS
4. OWNER'S WELL NUMBER OR NAME (if any)
5. DATE COMPLETED DEPTH OF HOLE FT. DEPTH OF WELL FT.
6. STATIC WATER LEVEL FT. BELOW GROUND SURFACE MEASURED ON (Date)
7. CASING IN. ☐ METAL ☐ PLASTIC ☐ OTHER LENGTH FT.
8. SCREEN IN. ☐ METAL ☐ PLASTIC ☐ OTHER SLOT SIZE LENGTH FT.
9. CEMENTED FROM FT. TO GROUND SURFACE, USING ☐ PUMP DOWN METHOD OR ☐ GRAVITY METHOD
10. LOCATION OF WELL: PARISH WELL IS NEAR, (Town or City)
APPROXIMATELY MILES FROM (Crossroads, Railroad, Any Landmark, etc.)
(Please draw sketch on back of Original)
11. REMARKS:
12. DRILLER'S LOG (Description and color of cuttings, such as shale, sand, etc. in feet)

FROM	TO	DESCRIPTION	FROM	TO	DESCRIPTION

13. FOR HEAT PUMP ONLY: AVG. DEPTH FT. NUMBER OF HOLES
14. ABANDONMENT INFORMATION: DOES THE NEW WELL REPLACE AN EXISTING WELL? YES ☐ NO ☐
15. NAME OF PERSON WHO DRILLED THE WELL:
(REV 7/93)

Name of Water Well Contractor
LICENSE NUMBER WWC—
Authorized Signature Date

MAIL ORIGINAL TO:
LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
ATTN.: CHIEF - WATER RESOURCES SECTION
P.O. BOX 94245
BATON ROUGE, LA 70804-9245
(504) 379-1434

FOR OFFICE USE ONLY
PARISH WELL NO. —
IDENTIFICATION NUMBER 0
REVISED COORDINATES
Geologic Unit
SECTION TOWNSHIP RANGE
ELEV. QUAD. NO
Use of Well
INPUT BY: DATE:
INSPECTED BY: DATE:
REMARKS:

FOR MONITOR/PIEZO/RECOVERY WELLS ONLY
LATITUDE LONGITUDE
SECTION TOWNSHIP RANGE
ELEV. QUAD. NO
SITE ADDRESS:

DOTD'S COPY

A. The Water Well Registration Short Form (DOTD-GW-1S) consists of a set of three copies. The first copy (marked DOTD copy) is to be mailed by the water well contractor within 30 calendar days after the well has been completed to: Louisiana Department of Transportation and Development, Attn: Chief, Water Resources Section, Box 94245, Baton Rouge, LA 70804-9245.

B. The second copy of the form shall be retained by the water well contractor for his files and the third copy shall be given to the well owner immediately upon completion of the work.

C. Although most of the information needed to complete the form is available to the water well contractor, the following explanation will provide clarification of intent and uniformity of reporting:

1. Item 1. Use of Well The principal purpose for which the well is used should be indicated by checking the appropriate box on the form. If the well is used for more than one purpose, only the principal or primary use should be shown.

a. Domestic Well. A water well used exclusively to supply the household needs of the owner/lessee and his family. Uses may include drinking, cooking, washing, sanitary purposes, lawn and garden, watering and caring for pets.

b. Rig Supply Well. A water well drilled at an oil or gas drilling site to supply water for drilling and/or other field related activities.

c. Monitoring Well. A well used to obtain hydrologic and water quality data, usually installed at or near a known or potential source of ground water contamination.

d. Heat Pump Supply. A water well which supplies ground water to a heat pump heat exchanger.

e. Heat Pump Hole. A hole drilled to install piping (tubing) material for an earth-coupled water source heat pump system, also known as a vertical closed-loop system.

f. Abandoned Pilot Hole. A hole drilled with the intent to install casing and to produce water but had to be abandoned because of problems related to drilling operations or encountering unsatisfactory formations.

g. Other. A well used for a purpose that does not fit into either the above categories or those requiring a Long Form (DOTD-GW-1).

2. Item 2. Owner List the name of the legal owner of the property on which the well is located or the person or company holding a long-term lease on the property. If the owner or lessee is an individual, list first and last names and middle initial of individual. List area code and telephone number of owner in the spaces provided.

3. Item 3. Address List full and correct address of the owner.

4. Item 4. Owner's Well Number List name or number the well owner has assigned to the well.

5. Items 5-9. Well Information List in appropriate spaces, completion date of well, depth of hole, depth of well, static water level, casing type, size and length, screen size, type and length, the depth to which the casing was cemented, and cementing method used.

6. Item 10. Location of Well List the parish where the well is located, including the nearest town, city, etc., and give directions to the well site. The location of the well should be described in detail and as accurately as possible so that the well can be easily located by the department's field inspector. Please draw a sketch on the back of the original form showing the location of the well with reference to roads, railroads, buildings, etc. Use an (X) to indicate location of the well. Show location of nearest existing well(s), if any nearby, by making (Os) and approximate distance between wells. For rig-supply wells, attach a "registered" permit plat (see §101.I) and for monitoring wells, complete spaces provided for the latitude and longitude of the well location, as well as section, township and range (see §101.J).

7. Item 11. Remarks This space can be used for presenting any other information, such as screen openings, pump information, problems encountered during drilling, name and license number of water-well subcontractors, method and materials used to seal heat pump hole, etc.

8. Item 12. Driller's Log List in the space provided a description of the materials encountered and depth. If space on front of the form is insufficient, continue driller's log on reverse side of original form or attach a copy of the driller's log to the original form to be transmitted to the department.

9. Item 13. For Heat Pump Holes Only List average depth of holes and number of holes drilled at the site. Indicate type of tubing material used by checking appropriate box. Method and materials used to seal holes shall be stated under item marked "remarks."

10. Item 14. Abandonment Information If the well is new, specify whether or not it replaces an existing well. The water well contractor is responsible for informing the owner of the well of state regulations requiring plugging of abandoned wells.

D. After completing all items, list the name of the water well contracting company and the license number on the spaces provided in the upper right-hand corner of the form. Sign and date the form and mail the original to the department at the address listed on the form within 30 calendar days after the well has been completed. The owner's copy shall be given to the owner immediately upon completion of the work. The contractor's copy shall be retained by the contractor for his files.

E. If there are any questions or you need assistance, please call or write to:

Louisiana Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245
Telephone (225) 379-1434.*

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3098-38:3098.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:974 (October 1985).

Chapter 3. Water Well Construction

§301. Preamble

A. As announced in the October 1985 issue of the *Louisiana Register*, the rules, regulations and standards for constructing water wells and holes were prepared by the Louisiana Department of Transportation and Development, Office of Public Works, hereafter referred to as the *department*, in accordance with R.S. 38:3091 through 38:3098.8. The rules, regulations and standards stated herein become effective on November l, 1985 and supersede the rules, regulations and standards for water well construction which had been in effect since December 20, 1975.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:952 (October 1985).

§303. Purpose

A. The purpose of the rules, regulations, and standards stated herein is to minimize the chances of contaminating the state's ground water resources via improperly constructed water wells and holes and to minimize health and safety hazards associated with construction of wells and holes. The rules, regulations and standards shall apply to all water wells and holes, including but not limited to, public supply, domestic, irrigation/agriculture, industrial, power generation, rig-supply, observation, dewatering, monitor, and heat pump supply, as well as pilot holes, test holes, geotechnical boreholes and heat pump holes (closed loop system). For glossary of terms refer to §113.A of this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:952 (October 1985).

§305. Approval of Plans and Specifications for Public Water Supply Systems

A. R.S. 38:3094(A)(3), authorizes the department to:

> "Establish regulations governing standards for the construction of all water wells drilled after the effective date of this Act..."

B. R.S. 40:4(A)(8), of Section 4 (Sanitary Code) states:

> "In order to protect the public against disease from water supplied for drinking, culinary, and ablutionary purposes, the state health officer shall prepare and promulgate all rules and regulations necessary to insure that water supplied to the public by public water supplies is obtained from safe and sanitary sources and that such sources are properly protected; is treated, stored and conveyed in a safe and sanitary manner; and is safe and potable for human use..."

C. In accordance with these legislative directives, the rules, regulations and standards governing construction of public supply water wells were prepared by the department in close cooperation with the Louisiana Department of Health and Human Resources, Office of Preventive and Public Health Services, and they are intended to eliminate duplication of efforts and requirements by the two agencies, thereby minimizing cost and optimizing operating efficiencies.

D. Chapter XII of the State Sanitary Code requires that no public water supply shall be constructed, operated or modified without review and approval of the state health officer. Detailed plans and specifications shall be submitted in duplicate to the Department of Health and Human Resources, Office of Preventive and Public Health Services, Box 60630, New Orleans, LA 70160, by the person having responsible charge for a municipally owned water supply or by the owner of a privately owned public water supply for review and approval before construction, modification, or operation of such system has commenced.

E. The water well contractor shall construct the well in accordance with the applicable provisions of this Chapter and shall submit a Water Well Registration Long Form (DOTD-GW-1) to the department within 30 calendar days after completing the well, as required by Subsection B of the rules, regulations and procedures for registering water wells and holes.

F. All questions relating to the quality of water, as it pertains to its effect on human health, shall be referred by the owner, engineer or water well contractor to the following:

> Department of Health and Human Resources
> Office of Preventive and Public Health Services
> Box 60630
> New Orleans, LA 70160
> Phone: (504) 568-5100.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:952 (October 1985).

§307. Licensing Requirements

A. The following wells and holes shall be drilled or constructed by a licensed contractor (driller) who is duly licensed by the department in accordance with the rules and regulations stated in LAC 46:LXXXIX:

1. all water wells, regardless of use or type;
2. monitoring wells;
3. heat pump wells and holes;
4. geotechnical boreholes;
5. test holes and pilot holes.

B. Additionally, reworking of water wells, as well as plugging and abandoning wells and holes, excluding oil and gas wells, shall also be undertaken by a licensed contractor.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§309. Registration Requirements

A. Every water well or hole drilled in the state of Louisiana shall be registered with the department in accordance with the requirements of LAC 56:I.Chapter 1.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§311. Variance Requests

Editor's Note: The telephone number listed in §311.A has been changed to (225) 274-4172.*

A. Requests to vary from the rules, regulations and standards for constructing water wells and holes shall be addressed to the department as follows:

Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245
Phone (225) 379-1434*

B. The request must demonstrate that compliance is impractical and must outline a satisfactory alternative. The department may prescribe, in writing, alternate requirements that are equivalent to the regulations and standards stated herein relating to the protection of aquifer and prevention of ground water contamination.

C. Requests to vary from the provisions of the State Sanitary Code relating to the sanitary features of the public supply water systems, and for questions related to the quality of water as it pertains to human health, shall be addressed to the following:

Department of Health and Human Resources
Office of Preventive and Public Health Services
Box 60630
New Orleans, LA 70160
Phone (504) 568-5100

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§313. Minimum Distance Requirements for Locating a Water Well

A. Provided that all other applicable rules and regulations are complied with, the minimum distance requirements for locating a water well shall be in accordance with the following subsections.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§315. Location in Relation to Possible Sources of Contamination

A. The horizontal distance between any water well and any possible sources of contamination shall be as great as possible but in no case less than the following minimum distances.

Possible Sources of Contamination	Minimum Distance (in feet)
Septic Tanks	50
Storm or Sanitary Sewer	50[1]
Cesspools, outdoor privies, oxidation ponds, subsurface absorption fields, pits, etc.	100[2]
Sanitary landfills, feed lots, manure piles, solid-waste dumps and similar installations	100
Another water well	25[3]
Drainage canal, ditch or stream	50[4]

[1]This distance may be reduced to 30 feet if the sewer is of cast iron with leaded joints or schedule 40 plastic pipe with water-tight joints.
[2]For domestic water wells, this distance may be reduced to 50 feet.
[3]This minimum distance requirement does not take into consideration the effects of interference from pumping nearby wells in the same aquifer.
[4]Horizontally measured from the water edge to the well at the highest water level which may have occurred in a 10 year period.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§317. Location in Relation to Levees

A. Wells shall not be drilled within 250 feet of the levees [R.S. 38:225(6)]. The department interprets this statute to mean that the well or wells shall be at least 250 feet from the land side toe of the levee.

B. When wells are to be drilled within 1,500 feet of any state or federal flood control levee or structure, the owner or driller must first obtain permission from the appropriate levee board. The Corps of Engineers requires that drilling commence and casing be set and cemented in place to a specified depth while the stage of the Mississippi River is below 11.0 feet National Geodetic Vertical Datum (NGVD) on the Carrollton Gage, New Orleans, Louisiana, unless a waiver to this restriction is granted. Requests to vary from their requirements must be sent to the appropriate levee board and the Corps of Engineers. For specific information concerning river stages and drilling wells near levees, the owner, engineer or water well contractor should contact the following:

U.S. Army, Corps of Engineers
New Orleans District
Box 60267
New Orleans, LA 70160
Phone: (504) 862-2204

U.S. Army, Corps of Engineers
Vicksburg District
Box 60
Vicksburg, MS 39180-0060
Phone: (601) 634-5000

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§319. Location in Relation to Flood Water

A. Locations subject to flooding should be avoided, if possible. If a reasonable alternate site does not exist, the well may be constructed in flood-prone areas provided the top of the casing is at least 2 feet above the highest flood level which may have occurred in a 10-year period but in no case less than 2 feet above the ground surface.

B. Well piping shall be constructed with a check valve or other appropriate apparatus to prevent introduction of surface water into the casing in the event of damage to the external piping or pressure tanks.

C. All rig-supply water wells must be properly capped between the time the well is completed and the time the well is put into water production at the site. The cap shall be watertight and securely attached to prevent easy entry by other than the owner and to prevent the introduction of flood waters or contaminants into the well.

D. Flood information may be obtained from the department, the U.S. Geological Survey or the administering agency of the Federal Insurance Program (i.e., municipality, police jury, regional planning authorities or the Department of Urban and Community Affairs).

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:953 (October 1985).

§321. Location in Relation to Buildings

A. A well shall be located far enough from a building to allow reworking or rehabilitation with a drilling rig. A well shall not be located below ground surface, such as in pits and basements, and shall not be located within the foundation of a building, except a building constructed solely to house pumping and water system equipment.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:954 (October 1985).

§323. Drilling and Construction

A. Geologic conditions in Louisiana permit the use of two methods of drilling: the rotary method and reverse circulation method. Regardless of the method used, every precaution should be taken to prevent ground water contamination during drilling operations.

B. Water used in drilling operations shall be potable or chlorinated to prevent contamination of water-bearing formations.

C. When drilling a hole the contractor shall:

1. record the hold diameter and any changes in size of hole;

2. record (driller's log) the depth and thickness of the formations penetrated;

3. record any unusual occurrences, such as loss of circulation, cave-ins, etc.; and

4. collect representative samples (drill cuttings) from each potential aquifer.

D. The contractor shall properly maintain all materials, tools, and drilling equipment and shall take all measures necessary to minimize health and safety hazards and to prevent movement of surface water and contaminants into the drilled hole or well.

E. An approved portable toilet shall be located at the drilling site if other restroom facilities are not available.

F. The mud pit shall be so constructed and maintained as to minimize the contamination of the drilling mud.

G. During a temporary shutdown for more than 24 hours, safeguards shall be taken to prevent possible contamination and damage. The well or hole shall be covered or capped to prevent entry by other than the contractor; it shall be clearly marked, and shall not be a safety hazard.

H. Alignment and Plumbness. The hole shall be drilled reasonably straight and plumb in order to:

a. avoid encroachment on neighboring property;

b. prevent intersection with other wells and holes;

c. prevent damage to screen while being set;

d. prevent damage to pumping equipment; and

e. allow for lowering the pump to the desired depth.

I. The contractor shall exercise reasonably straight and plumb. Testing for plumbness and alignment are described in Section 8 and Appendix C of the current *American Water Works Association Standards for Water Wells* (AWWA A-100), as well as in Article 51 of the United States Environmental Protection Agency's *Manual of Water Well Construction Practices*.

J. Drilling of Test Holes and Pilot Holes

1. A test hole is usually drilled to the base of the fresh water or to the bottom of the sand to be tested. Test holes are drilled primarily to:

a. determine the exact depth and thickness of the fresh-water bearing sands (aquifers);

b. collect drill cuttings for determining screen slot openings and the best location for the screen; and

c. collect quality and quantity of water data that can be used to design the well and select a pump and motor.

2. During the drilling operation, the contractor shall take the necessary precautions to proven the contamination of any aquifer and the exchange of waters between aquifers.

3. When the drilling of a pilot hole or a test hole is temporarily suspended and the rig moves away from the drilling site, the hole shall be considered an abandoned hole unless drilling operations are resumed within 30 calendar

days of the initial date of suspension of drilling or an extension, in writing, is granted by the department. During the "shut down" period, a mud column of sufficient weight and height shall be maintained in the hole at all times to prevent seepage of surface water and foreign materials into any aquifer and to prevent interaquifer movement of water. Additionally, the hole shall be capped and the immediate area shall be conspicuously marked to protect and warn the public. The cap shall be sufficiently strong and anchored to prevent easy and unintentional entry.

4. If the drilled test hole is deeper than the interval to be tested, the contractor shall use cement-bentonite slurry to set a plug extending from the bottom of the hole upward to a depth within 20 feet of the bottom of the proposed screen setting or to the top of clay or shale layer underlying the sand to be tested. A sufficient period of time shall be allotted for the cement to set before development begins. If sands were not penetrated below the bottom of the sand to be screened, heavy drilling mud or bentonite slurry may be used in lieu of cement-bentonite slurry to plug the bottom of the hole.

5. If another aquifer at a shallower depth is to be tested, the contractor shall use cement-bentonite slurry to set a plug extending upward from the top of the plug, previously placed in the bottom of the hole, to within 20 feet of the depth where the bottom of the test screen is to be set in the shallower aquifer, or to the top of the clay or shale layer underlying the shallower sand to be tested.

6. Abandoned pilot holes and test holes shall be plugged in accordance with requirements of §531, respectively.

K. Drilling of Heat Pump Holes (Closed Loop-System)

1. Heat pump holes shall be constructed in accordance with the pertinent provisions of this Chapter in order to protect freshwater aquifers from surface contamination and to prevent movement of water of objectionable quality from one aquifer to another.

2. Piping, casing or tubing materials shall conform to the applicable ASTM standards for polyvinyl chloride (PVC), polyethylene (PE), or polybutylene (PB) plastics and shall be installed and joined according to manufacturer's recommendations.

3. If used, antifreeze compounds shall be nontoxic and approved for use by the U.S. Environmental Protection Agency.

4. The entire depth of the closed loop heat pump holes shall be sealed in accordance with requirements of §531 within 30 calendar days after completion of drilling operations.

5. Service manifold should be protected from external forces as recommended by the manufacturer, designer and/or local building codes.

L. Drilling of Monitoring Wells

1. Monitoring wells shall be constructed in accordance with the pertinent provisions of this Chapter in order to protect freshwater aquifers from surface contamination and to prevent movement of water of objectionable quality from one aquifer to another.

2. To prevent the introduction of extraneous compounds into the formation water, the use of drilling mud in the monitoring wells is discouraged.

3. Monitoring wells shall be cased and the casing shall be strong enough to resist the forces imposed during and after installation, including reaction upon the casing by natural or foreign constituents or contamination.

4. The entire annular space of the monitoring wells shall be sealed with cement-bentonite slurry, unless specified otherwise by the Department of Environmental Quality (DEQ). Prior to cementing, flushing of the annular space with water will be necessary when obstructions are present or suspected. Coarse ground bentonite or bentonite pellets shall be placed between and the sand pack and the cement-bentonite slurry. The ground surface around the well shall be covered with a concrete slab at least 4 inches thick, extending at least 2 1/2 feet from the well in all directions. The surface of the slab shall be sloped to drain away from the well.

5. Monitoring wells shall be covered with a protective cover or cap.

6. Abandoned monitoring wells shall be plugged in accordance with requirements of §531.

NOTE: Construction of Monitoring Wells for facilities regulated by the department of Environmental Quality (DEQ) required approval from that department prior to construction.

M. Drilling of Geotechnical Boreholes

1. Boreholes shall be drilled in accordance with pertinent provisions of this Chapter in order to protect the fresh-water aquifers from surface contamination and to prevent movement of water of objectionable quality from one aquifer to another.

2. Geotechnical boreholes shall be plugged in accordance with requirements of §531 within 30 calendar days after the termination of drilling and sampling operations.

NOTE: Drilling of geotechnical boreholes for facilities regulated by the Department of Environmental Quality (DEQ) require special consideration by that department.

N. Reworking of Water Wells

1. Rehabilitation or modification of water wells shall be accomplished in accordance with the provisions of this Chapter of the rules, regulations and standards for water well drilling in order to protect the fresh-water aquifers from contamination.

O. The following operations shall be considered as reworking water wells and shall require a water well contractor's license.

1. removing and replacing screen;

2. replacing gravel pack around screen;

3. placing a new screen within the old screen;

4. placing a liner pipe within the old casing;

5. redeveloping a well by surging, adicizing, jetting, etc.

P. When a well is reworked or the sanitary seal is removed, the drop pipe, jet line or column pipe, pump/motor, etc., shall be cleaned and the well shall be disinfected in accordance with Chapter XII of the State Sanitary Code.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:954 (October 1985).

§325. Casing

A. An appropriate casing shall be installed in every water well to prevent the wall of the hole from collapsing, to house the pump, and to convey the water to the surface.

B. General Criteria. The selection of casing is dependent upon a number of factors that shall be considered when designing and installing a well. Following are some of the factors.

1. The casing shall be strong enough to resist the forces imposed during installation and other forces that can be expected after installation.

2. The casing shall be of adequate diameter to accommodate the pump and convey the required quantity of water.

3. Joints of metal casing shall have threaded couplings or be welded to ensure water tightness for the entire length of the casing.

4. The casing shall be reasonably plumb and straight. The plumbness and alignment of the casing shall be checked in accordance with accepted practices.

5. The casing shall be installed so as to seal off water-bearing formations that contain undesirable water and to prevent water from the surface and other aquifers from entering the well.

C. Materials. The casing materials commonly used in Louisiana are metal and plastic. Concrete, clay tile, wood, fiberglass, and other synthetic casings have been used in the past in some areas for specific applications.

D. Metal Casing. Steel is the material most frequently used for well casing in drilled wells. The three principal classifications of steel used for water well casing are as follows.

1. Standard and Line Pipe. This material shall meet one of the following standard specifications, including the latest revision thereof:

a. API Spec. 5A, "Specifications for Casing, Tubing and Drill Pipe;"

b. API Spec. 5L, "Specifications for Line Pipe;"

c. API Spec. 5LX, "Specifications for High-Test Line Pipe;"

d. ASTM A53, "Specifications for Pipe, Steel, Black and Hot Dipped, Zinc-Coated, Welded and Seamless Steel Pipe;"

e. ASTM A120 "Standard Specifications for Pipe, Steel, Black and Hot Dipped Zinc-Coated (Galvanized) Welded and Seamless Steel Pipe for Ordinary Uses;"

f. ASTM A134, "Standard Specifications for Pipe Steel, Fusion (Arc) Welded Steel Pipe (Sizes NPS 16 and over);"

g. ASTM A135, "Standard Specifications for Electric-Resistant Steel Pipe;"

h. ASTM A139, "Standard Specifications for Electric-Fusion (Arc) Welded Steel Pipe (Sizes 4 inches and over);

i. ASTM A211, "Standard Specifications for Spiral-Welded Steel or Iron Pipe;"

j. AWWA C201, "AWWA Standard for Fabricated Electrically Welded Steel Pipe;"

k. AWWA C202, "Tentative Standard for Mill Type Steel Water Pipe;"

l. Underwriters Laboratories Standard 888.

2. Structural Steel. This material shall meet one of the following specifications of the American Society for Testing and Material, including latest revision thereof:

a. ASTM A36, "Standard Specification for Structural Steel;"

b. ASTM A242, "Standard Specification for High-Strength Low-Alloy Structural Steel;"

c. ASTM 570-79, "Standard Specifications for Hot-Rolled Carbon Steel Sheet and Strip, Structural Quality;"

d. ASTM A283, "Standard Specifications for Low and Intermediate Tensile Strength Carbon Steel Plates, Shapes and Bars;"

e. ASTM A441, "Standard Specification for High-Strength Low-Alloy Structural Manganese Vanadium Steel."

(Abbreviations used are:
API American Petroleum Institute;
ASTM American Society for Testing and Materials;
AWWA American Water Works Association.)

3. High Strength Carbon Steel. At present, there is no standard specification concerning this material; however, products are marked whose chemical and physical properties are similar. The material shall contain mill markings which will identify the manufacturer and specify that the material is well casing steel that complies with the chemical and physical properties as published by the manufacturer.

E. Plastic Casing. Thermoplastic well casing pipe may be used for well construction if it complies with the requirements and restrictions of this Section.

F. Pipe and Material Specifications

1. The thermoplastic well casing pipe and couplings shall be new polyvinyl chloride (PVC) material produced in accordance with the current AWWA Standard A-100 and ASTM F-480 standard, except that the impact standards of the current ASTM D-2241 may be substituted.

2. PVC material shall be designated as PVC 1120 or PVC 1220 and shall include an ultra-violet degradation inhibitor in its formulation.

3. Solvent cement shall conform to the current ASTM D-2564 standard.

4. Pipe may be joined by threaded joints, integral bell pipe or one piece couplings. Solvent-weld tapered bell and spigot joints shall meet current ASTM specification D-2672.

G. Casing Wall Thickness and Diameters

1. The pipe shall have a standard dimension ration (SDR) of 26, 21, or 17, and shall be equivalent to at least Schedule 40 or 80, depending upon use, construction techniques, depths and strength requirements.

2. Casing collapse pressures recommended by the manufacturer shall not be exceeded in any phase of well construction. Due consideration shall be given to extreme conditions that may result from the use of high density cement grouts, high pressure cement grouting and high temperature from the heat of hydration in cement grouts.

3. Where threaded joints are used, wall thickness shall not be less than the equivalent of Schedule 80.

H. Marking and Approval

1. The well casing pipe and couplings shall be marked in accordance with the current ASTM F-480 standard.

2. The well casing pipe, couplings, cement, primer and other compounds shall be evaluated and approved for use as a well casing in potable water supplies by the National Sanitation Foundation (NSF) Testing Laboratories, Inc., Box 1468, Ann Arbor, Michigan 48106.

3. The pipe shall be marked with the nominal size standard dimension ration or schedule, type of material, either the designation "PVC 1120" or "PVC 1220", the wording "well casing", designation "ASTM F-480", manufacturers name or trademark, and the NSF-WC designation.

I. Storage

1. The pipe and couplings shall be stored in a manner to minimize exposure to ultraviolet radiation.

2. The pipe shall be stored in a manner to prevent deformation, sagging or bending.

J. Assembly and Installation

1. Joining techniques, including procedures for cutting, joint cleaning and priming, application of solvent cement, assembly and hardening time for solvent cement joints, shall be in accordance with the manufacturer's recommendations, and/or ASTM Standard D2855.

2. The well casing shall not be subjected to excessive forces and it may not be driven, pushed or forced into the formation.

3. PVC casing may be used to any depth, provided that allowable head differential (AHD) and hydraulic collapse pressure resistance (HCPR) are not exceeded. The well casing diameter and SDR or schedule shall be selected based on Appendix "L" of AWWA Standard A-100 and/or the manufacturer's recommendations for collapse pressure under extreme conditions.

4. PVC casing shall not be allowed to support the weight of the pump/motor (excluding submersible and single-pipe jet pump) and its related piping. The pump/motor, etc. shall be supported on a concrete base provided therefor.

5. Exposed PVC casings shall be protected from ultra-violet degration by appropriate coatings as recommended by the manufacturer.

K. Height of Casing. Well casing shall project at least one foot above ground level, pump-house floor, or the top of concrete slab. For wells in areas subject to flooding, refer to §103.I. The ground surface or concrete slab around the well shall be sloped to drain away from the well in all directions.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:955 (October 1985).

§327. Screen

A. Every water well shall be provided with an appropriate screen. It shall be the responsibility of the driller to determine the type of screen required, screen material, slot openings, entrance velocity, screen length and setting, and whether or not the well is to be gravel packed.

B. Type of Screen. The type of screen used is governed by cost, the contractor's experience with handling a specific type of screen, water quality, length of screen required, proposed well yield, and the required structural strength of the screen. The screen selected shall be strong enough to withstand external pressures and vertical load due to the weight of drill stem used to set the screen and the casing above the screen, if set in one continuous string.

C. Screen Material. The type of screen material is generally dependent upon cost and the quality of water to be pumped. If the water contains a relatively high concentration of carbon dioxide, dissolved solids or hydrogen sulfide, corrosion-resistant materials should be used in the construction of the screen. The screen should be made entirely of the same material, and the lap or extension pipe

(for not less than 5 feet) above the screen and blank pipe, if used, should be made of the same material as the screen. The likelihood of corrosion and encrustation can also be decreased by maintaining the entrance velocity within acceptable limits, 0.1 foot per second or less.

D. Among metal alloys available with varying degrees of corrosion resistance are the stainless steels which combine nickel and chromium with steel and the various copper-based alloys. Manufacturers can be expected to provide advice on the type of metal or metal alloys that should be used if supplied with the results of a water analysis. Nonmetal screens made of polyvinyl chloride (PVC) have been used as an alternative when corrosive conditions exist.

E. In contrast to "corrosive waters", encrusting waters are usually alkaline, have excessive carbonate hardness and contain iron and/or manganese. Encrustation, which reduces the open area of the screen and the specific capacity of the well, is the deposition of undesirable material about the screen openings. Efficient well development, which will decrease excessive head losses or pressure differentials across the face of the screen, will minimize the precipitation of encrusting minerals.

F. Screen Slot Openings. The selection of the screen openings, which shall be based on the results of mechanical analysis of the formation samples collected during drilling, is dependent upon the percentage of material that will be allowed to pass through the openings in the development process. Generally, the percentage of material that will be permitted to pass through the screen openings is related to the intended use of the water. Although proper screen selection and well development should eliminate the pumping of sand during normal operations, cyclic pumping and increased pumping rates sometimes cause a well to yield some sand. Sand pumping by wells used to supply public and domestic water systems cannot be tolerated, whereas some sand in water used for irrigation is generally acceptable. Other factors involved in the selection of the slot openings are the uniformity of the material, the uniformity coefficient, the type of overlying sediments and the desired entrance velocity.

G. Properly designed slot openings should allow the water to flow freely from the formation into the pump area while preventing clogging and sanding.

H. Entrance Velocity. To minimize the potential for encrustation, corrosion and "sanding", the entrance velocity should not exceed 0.1 foot per second. The entrance velocity is calculated by dividing the yield expressed in cubic feet per second (gallons per minute divided by 448.8 equals cubic feet per second) by the total area of the screen openings in square feet. The total area of the screen openings is the area of the openings provided per foot of screen multiplied by the length of screen in feet. Most manufacturers provide tables listing the open area for screen diameter and slot openings.

I. Screen Length. The length of the screen is influenced by cost, aquifer thickness, desired well yield and the estimated pumping level. The screen length should represent a compromise between cost and well efficiency. Well yield is more effectively increased by increasing the length of the screen than by proportionally increasing the diameter.

J. Screen Setting. Installation of the screen should be based upon an evaluation of all data collected during drilling and a detailed interpretation of the driller's and geophysical logs, if available. Care should be exercised to avoid damaging any part of the screen and to ensure that the setting is correct.

K. Gravel Pack

1. If the interval to be screened consists of a fine uniform sand or consists of thin alternating layers of fine, medium and coarse sand, it may be desirable to gravel pack the screen. The objectives of gravel packing are to increase the permeability of the material in the zone immediately surrounding the screen, to minimize the chances of sand pumping, to reduce the entrance velocity at the face of the screen, to reduce the chances of error where a screen is set opposite alternating beds of sand of different grain size and clay, and to allow the installation of a small diameter screen in relatively thick aquifers.

2. If required, a properly graded gravel pack shall be selected based upon an evaluation of the sieve analysis for the sands in the formation. The uniformity coefficient (see §109 of this Chapter for glossary of terms) of the selected gravel pack material should be 2.5 or less. The gravel envelope, usually 3 to 8 inches thick, should consist of clean, well-rounded siliceous material that will permit the selection of screen openings that will retain 90 percent or more of the gravel pack material by size. Limestone and shale shall not be used as a gravel pack.

L. Formation Stabilization. If the hole drilled to accommodate the screen is much larger (4 inches or more) than the diameter of the well screen, it is sometimes necessary to stabilize the extension pipe with a material such as sand or gravel to prevent caving or slumping of silt, sand, and clay from above the aquifer. Formation stabilization should not be confused with gravel packing. In contrast to gravel packing, the material used as the formation stabilizer is not specially graded. In addition, commercially available equipment, such as shale packers or metal-petal baskets, are commonly used to prevent sloughing or caving into the producing formation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:956 (October 1985).

§329. Methods and Standards for Cementing the Annular Space

A.1.The methods and materials employed to cement the annular space between the well casing and the borehole generally depend upon:

a. local geohydrologic conditions; and

b. type of well construction.

2. The primary reasons for sealing, cementing or grouting the annular space are as follows:

a. to protect the aquifer from surface contamination;

b. to increase the life of the well by protecting the casing against exterior corrosion; and

c. to prevent movement of water of objectionable quality from one aquifer to another.

B. Methods for Cementing the Annular Space. The following regulations shall apply to all water wells, regardless of use or type.

1. Annular space shall be sealed with cement-bentonite slurry, which is a mixture of cement, bentonite and water, consisting of not more than 8 percent bentonite by dry weight of the cement, and a maximum of 10 gallons of water per sac (94 pounds) of cement. Additives, in the approved and proper ratio, may be added to the slurry if required. If the slurry is to be prepared in the field, it is recommended that the bentonite be added after cement and water are thoroughly mixed.

2. Neat cement, which is a mixture of cement and water consisting of not more than 5 gallons of water per sack (94 pounds) of cement, may be used in lieu of cement-bentonite slurry.

3. Cement-bentonite slurry shall be placed in the annular space in a continuous operation from bottom of the space to be cemented, up to the ground surface. Slurry shall be placed by the circulation or pump-down method unless specified otherwise. The pump-down method may include the "Halliburton" method, inner string cementing, or positive placement-exterior method. The selected method should ensure uniform coverage of slurry throughout the annular space.

4. A suitable cement retainer, packer, shale trap, boot or plug shall be secured to the casing at the appropriate depth to prevent leakage or migration of the slurry into the bottom of the well.

5. The cement-bentonite slurry shall fill a minimum annular space of 1 1/2 inches for 4-inch and smaller wells, and a minimum of 2 inches for 6-inch and larger wells. For cementing methods using a "tremie" or "grouting pipe" placed in the annular space, sufficient space should be provided to accommodate the tremie pipe.

6. If a conductor pipe is used, it shall be cemented in place and the annular space between the well casing and the conductor pipe shall be made watertight by grouting with cement-bentonite slurry from bottom of the conductor pipe to the ground surface.

7. If one or more sands between the ground surface and the production sand contain saline water and/or water of objectionable quality, the annular space between the well casing and the hole shall be sealed with cement-bentonite slurry, at a minimum, to a depth of not less than 20 feet below the deepest sand containing the water of objectionable quality unless full depth cementing is required by §329.

C. Standards for Cementing the Annular Space

1. Community public supply wells shall be cemented to their full depth from the top of the producing aquifer to the ground surface.

2. Noncommunity public supply wells shall be cemented from a minimum depth of 50 feet to the ground surface.

3. Industrial and power generation wells shall be cemented to their full depth from the top of the producing aquifer to the ground surface.

4. Observation wells shall be cemented from a minimum depth of 50 feet to the ground surface.

5. Irrigation/agricultural wells shall be cemented from a minimum depth of 10 feet to the ground surface, using the pump-down or the gravity method with or without the tremie pipe.

6. Rig-supply wells shall be cemented from a minimum depth of 50 feet to the ground surface.

7. Monitoring wells shall be cemented along the entire length of the casing unless specified otherwise by the Department of Environmental Quality.

8. Dewatering wells, other than drive-point type, shall be cemented from a minimum depth of 50 feet to the ground surface.

9. Domestic wells shall be cemented from a minimum depth of 10 feet to the ground surface using the pump-down or the gravity method with or without the tremie pipe. A suitable cement retainer, such as a shale trap or boot, as required by §329.B.4, shall be attached to the casing at the 10-foot minimum depth. The use of empty cement sacks in lieu of shale trap or boot shall not be allowed. A long metal rod shall be used to rod the cement slurry to ensure uniform coverage around the casing.

10. Heat pump supply wells for private homes shall be cemented in accordance with requirements for domestic wells; for apartment buildings and other commercial establishments, in accordance with requirements for noncommunity public supply wells, and for industrial plants, in accordance with requirements for industrial wells.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

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§331. Well Development and Disinfection

A. Purpose and Methods of Development. The principal purposes of well development are as follows:

1. to remove silt, sand, drilling mud, and other materials that may retard the flow of water toward and into the well;

2. to correct any damages to, or clogging of, the water bearing formation that may have occurred during drilling; and

3. to stabilize the material around the screen so that the well will yield clear "sand free" water.

B. The following methods used in developing, redeveloping or conditioning a well are acceptable:

1. surging with a plunger or piston while jetting using air lift;

2. jetting with water, also known as crosswashing;

3. backwashing or surging by alternately starting and stopping the pump;

4. using chemicals designed for developing or redeveloping a well;

5. over-pumping.

C. The use of explosives is prohibited. Water used for well development shall be potable or chlorinated to prevent contamination of water-bearing formations.

D. Criteria for Development

1. A well should be developed at a yield of 1.5 times the proposed pumping rate and, if possible, it should continue until the observed specific capacity is the same, or nearly the same, as the theoretical specific capacity. Adequately developed wells should be "sand free" and should have fewer encrustation problems if the operating pumping rate is about two-thirds the developed rate, the entrance velocity is 0.1 foot per second or less, and the head differential across the face of the screen is at a minimum.

2. The acceptable amount of sand per unit volume should be between recommended ratios of 1 ounce of sand per 8,000 gallons of water (about 1 milligram per liter) and one ounce per 100 gallons of water (80 milligrams per liter), depending on the use of water. Because of the possibility of damage by sand to plumbing fixtures and industrial equipment and products, the tolerance for sand in water used for public supply domestic and most industrial purposes is low and should not exceed 5 milligrams per liter. Many wells that are used for public water supply systems have an acceptable ratio of "no sand." The well owner should specify the acceptable limits of the "sand free" water with equal consideration given to the use of the water, the desired production rate, costs, and well development.

E. Development of Gravel-Packed Wells. The successful development of a gravel-packed well is dependent upon the grading of the gravel, the method of development, and thickness of the skin of the relatively impervious drilling mud filter cake which is "plastered" on the wall of the hole and is between the water-bearing formation, and the emplaced gravel. Because it concentrates energy in small areas, the jetting or cross washing method is usually the most effective in developing gravel-packed wells.

F. Chemicals Used in the Development Process

1. Glassy polyphosphate chemicals, if used strictly in accordance with the manufacturer's recommendation, will aid in the development or redevelopment process by reducing the gel-like properties of the drilling mud and by dispersing the clay particles that are on the sand grains.

2. The appropriate ratio of chemicals to water in the well is usually specified by the manufacturer. The mixture should be allowed to stand in the well for at least one hour, or the period of time recommended by the manufacturer of the chemical, before development starts. It should be noted that the polyphosphate should not be allowed to remain in the well for too long (several days). If the chemicals converted to the glassy orthophosphate state, any clay in suspension could be deposited, perhaps out of reach of any further removal, resulting in permanent reduction in yield.

3. Chemicals used in the development process shall either meet the standards of the American Water Works Association or be approved for use by the U.S. Environmental Protection Agency (EPA).

4. Disinfection of Wells. All new wells and existing wells in which repair work has been done shall be disinfected before being put into use, in accordance with Chapter XII of the State Sanitary Code, if water is to be used for drinking, cooking or washing purposes. Negative bacteriological analysis of water, performed by the Department of Health and Human Resources (DHHR) or by a laboratory certified by the state health officer, shall be required for all public supply and domestic water wells.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:958 (October 1985).

§333. Standards for Miscellaneous Appurtenances

A. Vent (Breather Pipe). Vents are required for all public supply water wells and are recommended for use on wells used for other purposes. Vents shall be so constructed and installed as to prevent the entrance of contaminants into the well. Vent openings shall be piped water-tight to a point at least 2 feet above the highest flood level which may have occurred in a 10-year period, but in no case less than 1 foot above the top of the well casing. Such vent openings and extensions thereof should not be less than 1/2 inch in diameter, with extension pipe firmly attached thereto. The openings of the vent pipes shall be turned downward and screened to prevent the entrance of insects, foreign matter and other contaminants. Vents will not be required when single-pipe jet pumps are used.

B. Sampling Tap. All public supply and domestic water wells shall be provided with a readily accessible faucet or tap on the well discharge line at the well head for the collection of water samples. The faucet or tap shall be of the smooth nozzle type and turned downward.

C. Concrete Slab

1. When concrete slabs are placed around water wells at ground surface, they should be at least 4 inches thick and extending at least 2 1/2 feet from the well in all directions. The surface of the slab shall be sloped to drain away from the well. The top of the casing shall be at least 1 foot above the top of the slab. Prior to the slab installation, the contractor shall seal the annular space in accordance with

§103.N. The placement of a slab shall not be considered a substitute for the placement of cement-bentonite slurry in the annular space between the hole and the casing.

2. For wells where a slab is not provided, the ground surface surrounding the well shall be compacted and graded to drain water away from the well.

D. Sanitary Seals. A water-tight sanitary seal shall be installed at the top of the casing for all water wells to prevent the entrance of contaminated water or other objectionable material into the well. Sanitary seals shall be constructed of a durable material such as cast iron, steel, aluminum, high impact plastic, neoprene, or a combination thereof. If a vent and/or an electrical conduit enter the well casing through the sanitary seal the openings shall be made water-tight.

E. Pump/Motor Base. To prevent transmission of vibration to the well casing, all surface-mounted pumps/motors (excluding submersible and single-pipe jet pumps/motors) shall be supported by a concrete base, pier or foundation. The well casing shall not be used to support the weight of the surface-mounted pump/motor, except as noted above. Foundations may either be split pier type or solid pedestal type. For solid pedestal foundations, the well casing shall project at least 1 inch above the level of the foundation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:959 (October 1985).

§335. Enforcement Actions

A. Provisions addressing enforcement of this Chapter appear in R.S. 38:3096, as follows.

1. Whoever knowingly and willfully violates a provision of this Chapter, or a rule, regulation, or order of the director or a board made hereunder, shall be subject to a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation if a penalty for the violation is not otherwise provided in this Chapter.

a. The place of suit to recover this penalty shall be selected by the director or board, as may be appropriate, in the district court of the parish of the residence of any one of the defendants, or in the district court of the parish where the violation took place.

b. Suit shall be at the direction of the director or board, as may be appropriate, and shall be instituted and conducted in his or its name by the attorney general or by the district attorney of the district under the direction of the attorney general.

2. Whoever knowingly and willfully aids or abets a person in the violation of a provision of this Chapter, or in any rule, regulation, or order made hereunder, shall be subject to the same penalties provided herein for the principal violator.

B. Falsification of Documents. Falsification of documents to evade regulations, as well as penalties for said falsifications, appears in R.S. 38:3095, as follows.

1. No person shall, for the purpose of evading this Chapter, or any rule, regulation, or order made thereunder:

a. make or cause to be made any false entry or statement of fact in any report required to be made by this Chapter or by any rule, regulation, or order made hereunder; or

b. make or cause to be made any false entry in an account, record, or memorandum kept by any person in connection with the provisions of this Chapter or of any rule, regulation or order made thereunder; or

c. remove out of the jurisdiction of the state, or destroy or mutilate, alter, or by any other means falsify any book, record, or other paper pertaining to the matters regulated by this Chapter or by any rule, regulation, or order made thereunder.

2. Whoever violates this Section shall be fined not more than $5,000 or imprisoned not more than six months or both.

C. The penalty provision for falsification of documents required under the provisions of this Chapter are therefore criminal in nature and will be enforced through the district attorney having jurisdiction where said violation occurs. It should also be noted that utilization of the United States Mail in the falsification of documents constitutes a violation of Title 18 of the United States Code (Mail Fraud), and such information will be referred to the appropriate United States attorney.

D. Appeals. An alleged violator may appeal any order of the department by requesting a hearing. The hearing request must be made to the department, in writing, within 30 calendar days of the original order and must be sent by "Certified Mail-Return Receipt Requested." After receiving the request, the department will arrange a hearing to determine what other remedial action will serve to effect compliance with the rules and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3091-R.S. 38:309.8.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:959 (October 1985).

Chapter 5. Plugging and Sealing of Abandoned Water Wells and Holes

§501. Organization

A. As announced in the October 1985 issue of the *Louisiana Register*, the rules, regulations and standards, stated herein, were prepared by the Louisiana Department of Transportation and Development, Office of Public Works, hereafter referred to as the "department," which is responsible for establishing rules, regulations and standards for plugging (sealing) of abandoned water wells and holes in Louisiana in accordance with R.S. 38:2091-38:3097.

B. The rules, regulations and standards, stated herein, will become effective on November 1, 1985 and will supersede the rules, regulations, standards and methods for plugging and sealing of abandoned water wells and holes which had been in effect since September 1, 1975.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:959 (October 1985).

§503. Purpose

A. The purpose of the rules, regulations and standards for plugging abandoned water wells and holes, stated herein, is to protect the ground water resources of the state from surface contamination, to prevent movement of water from one aquifer to another, to prevent the entrance of objectionable materials and wastes into aquifers via open or improperly sealed water wells and holes, and to minimize health and safety hazards associated with abandoned wells and holes.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§505. General Rules and Regulations

A. In 1972, the Louisiana Legislature enacted State Act 535, which authorized the department to promulgate reasonable rules and regulations relating to the plugging of abandoned water wells. Section A-6 of this Act (R.S. 38:3094) states that the department shall:

> "Require that all abandoned wells be reported and sealed with approved standards and to establish such standards."

B. Accordingly, the rules, regulations and standards for plugging abandoned water wells and holes stated herein were prepared in response to this legislative directive and were developed in coordination with other state agencies that are also concerned with the protection of the water resources of the state. The regulations and standards are intended to provide for restoration, as nearly as possible, of those subsurface and surface conditions that existed prior to drilling, boring digging or augering activities; taking into account any changes that may have occurred as a result of "natural stresses."

C. These regulations and standards do not preempt but instead complement the rules and regulations of the Louisiana Department of Natural Resources, Office of Conservation, related to plugging and abandonment of oil, gas, saltwater, saltwater disposal, waste disposal and injection wells, and the rules and regulations of the Department of Environmental Quality related to plugging of monitoring wells and geotechnical boreholes associated with waste activities. These regulations and standards are also important as guidelines for other state agencies when promulgating and enforcing their plugging regulations and standards.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§507. Abandoned Water Wells and Holes That Shall Be Plugged

A. The rules, regulations and standards for plugging abandoned water wells and holes shall apply to all abandoned water wells and holes including, but not limited to, public supply, domestic, irrigation/agriculture, industrial, power generation, rig-supply, observation, dewatering, monitoring, and heat pump supply, as well as abandoned pilot holes, test holes, geotechnical boreholes, and heat pump holes (closed loop system). Abandoned or improperly plugged wells or holes could act as conduits for transmitting contaminants from the surface down to the water-bearing sands and thereby contaminate the state's ground water resources. For glossary of terms, refer to §113.A of this Part.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§509. Exemptions

A. In accordance with R.S. 38:3097, the following wells and holes are exempted from the provisions of the rules, regulations and standards stated herein:

1. saline-water wells associated with secondary recovery operations;

2. brine wells;

3. oil and gas wells and holes;

4. injection wells;

5. geothermal and geopressured holes associated with production of oil and gas; and

6. waste disposal wells.

B. Although the cited activities are not covered by R.S. 38:2094, they are not exempted or excepted by state law; therefore, persons, firms, corporations or others dealing with the cited activities should contact the appropriate regulating agencies for further information and should take any and all action necessary to protect the water resources of the state from contamination. The exclusion of these activities from these regulations does not in any way remove or establish legal liability for health and safety hazards, contamination, or pollution problems alleged to be caused by persons engaged in the activities cited in the first paragraph of this Section.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§511. Licensing Requirements

A. State Act 715 of 1980 (R.S. 38:3098), as amended by State Act 313 of 1984, requires that every person, firm or corporation desiring to engage in the business of plugging and abandoning wells or holes, excluding oil and gas wells, in the state of Louisiana shall obtain a license from the department in accordance with the rules and regulations stated in LAC 46:LXXXIX.

B. Accordingly, plugging of abandoned water wells and holes must be conducted by a qualified contractor who is duly licensed by the department, with the following exceptions.

1. Nothing in this Chapter shall prevent a person who has not obtained a license, pursuant thereto, from plugging a domestic water well on his own or leased property which is his permanent residence, or was intended for use only for watering livestock on his farm; however, that person shall comply with all rules, regulations and standards for plugging such wells or holes, including the submission of plugging and abandonment forms.

2. In addition to the domestic wells referred to in §511.A, a person may plug an abandoned well or hole on his own or leased property provided that the person has the required equipment and knowledge for properly plugging the well or hole, in accordance with the rules, regulations, and standards stated herein, to the satisfaction of the department, and provided that the person has obtained departmental approval for plugging the well or hole himself, and provided that such approval is obtained prior to the beginning of the plugging operation. The owner shall complete and submit a Water Well Plugging and Abandonment Form (DOTD-GW-2) to the department within 30 calendar days after completion of the plugging operation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§513. Variance Requests

Editor's Note: The telephone number listed in §513.A has been changed to (225) 274-4172.*

A. Because of variable hydrologic conditions, differences in well construction, depth, and size, and the irregular occurrence of saltwater sands, the rules, regulations and standards stated herein cannot cover every possible situation. For cases where compliance with the rules, regulations, and standards stated herein is impractical, the owner, engineer, or the waterwell contractor may request a variance and/or clarification on methods specified. Such requests shall be addressed to the department as follows:

Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245
Phone: (225) 379-1434*

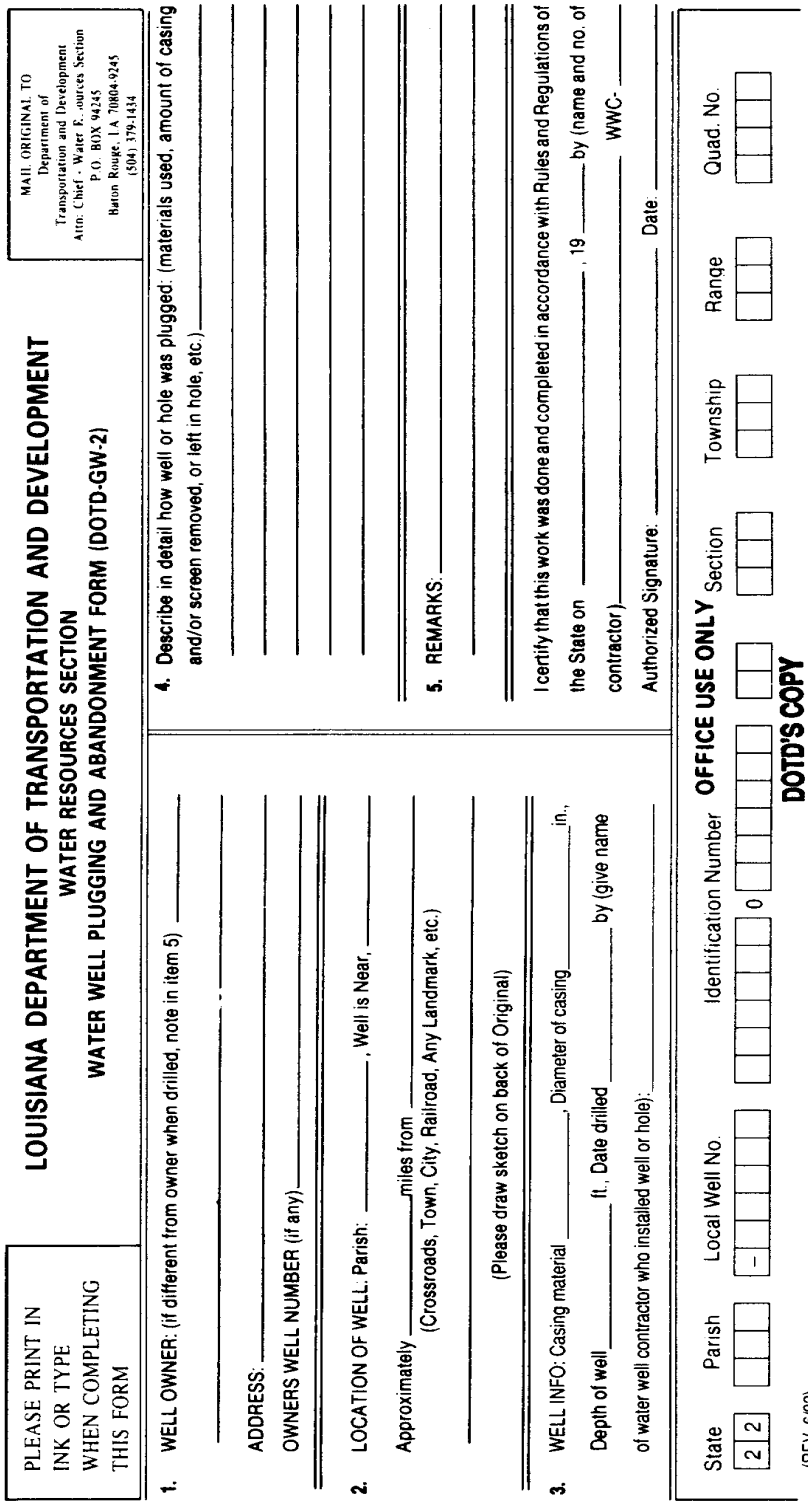
B. The request must be in writing, must demonstrate that compliance is impractical and must outline a satisfactory alternative. The department may prescribe, in writing, alternate requirements that are equivalent to the regulations and standards stated herein relating to the protection of aquifer and prevention of ground water contamination.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§515. Submission of Water Well Plugging and Abandonment Forms (DOTD-GW-2)

Editor's Note: The telephone number listed in §515, Form DOTD-GW-2 has been changed to (225) 274-4172.*



PLEASE PRINT IN INK OR TYPE WHEN COMPLETING THIS FORM

LOUISIANA DEPARTMENT OF TRANSPORTATION AND DEVELOPMENT
WATER RESOURCES SECTION
WATER WELL PLUGGING AND ABANDONMENT FORM (DOTD-GW-2)

MAIL ORIGINAL TO
Department of
Transportation and Development
Attn: Chief - Water Resources Section
P.O. BOX 94245
Baton Rouge, LA 70804-9245
(504) 379-1434

1. WELL OWNER: (if different from owner when drilled, note in item 5) _____
   _____
   ADDRESS: _____
   OWNERS WELL NUMBER (if any) _____

2. LOCATION OF WELL: Parish: _____, Well is Near, _____
   Approximately _____ miles from _____
   (Crossroads, Town, City, Railroad, Any Landmark, etc.)
   _____
   (Please draw sketch on back of Original)

3. WELL INFO: Casing material _____, Diameter of casing _____ in.,
   Depth of well _____ ft., Date drilled _____ by (give name
   of water well contractor who installed well or hole): _____

4. Describe in detail how well or hole was plugged: (materials used, amount of casing and/or screen removed, or left in hole, etc.) _____

5. REMARKS: _____

I certify that this work was done and completed in accordance with Rules and Regulations of the State on _____, 19 _____ by (name and no. of contractor) _____ WWC- _____
Authorized Signature: _____ Date: _____

State Parish Local Well No. Identification Number **OFFICE USE ONLY** Section Township Range Quad. No.
22 [ ][ ] - [ ][ ][ ][ ][ ][ ] 0 [ ][ ][ ][ ][ ][ ] [ ][ ] [ ][ ] [ ][ ] [ ][ ]

DOTD'S COPY

(REV. 6/92)

A. The contractor who plugs an abandoned well or hole shall complete and submit to the department the original copy of the Water Well Plugging and Abandonment Form (DOTD-GW-2) within 30 calendar days after the completion of the work. The owner's copy shall be sent to the owner immediately after completion of the work, and the contractor shall retain the contractor's copy for his files. A sample copy of Form DOTD-GW-2 and instructions for completing the form are in §516. For reporting purposes only, the department considers the work completed when the work is accepted by the owner or when the contractor has moved his equipment from the site; whichever comes first. Acceptance by the owner or removal of equipment from the site by the contractor does not imply, in any way, acceptance or approval by the state of Louisiana. The department, after inspection of the site and records (refer to §523), can require the owner and/or the contractor to do whatever additional work is necessary to properly plug and seal a hole or well in accordance with the standards stated herein. The expense for the additional work shall be borne by the owner and/or the contractor, as the case may be.

B. For the purpose of reporting the plugging of abandoned geotechnical boreholes, the drilling contractor shall certify annually at license renewal time, that all boreholes drilled by his firm have been plugged in accordance with requirements of §531.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:960 (October 1985).

§516. Instructions for Completing Water Well Plugging and Abandonment Form (DOTD-GW-2))

Editor's Note: The telephone number listed in §516.E has been changed to (225) 274-4172.*

A. The Water Well Plugging and Abandonment form (DOTD-GW-2) consists of a set of three copies.

1. The first copy (marked DOTD copy) is to be mailed by whoever plugs the well or hole within 30 calendar days after plugging operations have been completed to:

Louisiana Department of Transportation and Development
Attn: Chief, Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245

B. In regard to the other copies of the form, the following procedure shall be followed.

1. If the well is plugged by a water well contractor, he shall retain the second copy of the completed form for his files and shall give the third copy to the owner/lessee immediately upon completion of the plugging operation.

2. If the well is plugged by the owner/lessee (see §511), the second and third copies of the completed form shall be retained by the owner/lessee for his files.

C. The following explanation will provide clarification of intent and uniformity of reporting.

1. Item 1. Owner List the name of the legal owner of the property on which the well is located or the person or company holding a long-term lease on the property. If the owner or lessee is an individual, list first and last names and middle initial of individual.

a. Address The address should be that of the owner. If the well is owned by an industry, the local address of the firm is preferred in order that additional data on the well may be easily obtained by the state or a regional water district or commission.

b. Owner's Well Number Many cities, institutions, industrial plants, and large farms have their own systems of designating or identifying wells by numbers and/or name. This information is useful when locating the well and should be entered on the form.

2. Item 2. Location of Well List the parish where the well is located, including the nearest town, city, etc., and give directions to the well site. The location of the well should be described in detail and as accurately as possible so that the well can be easily located by the department's field inspector. Please draw a sketch on the back of the original form showing the location of the well with reference to roads, railroads, building, etc. Use an (X) to indicate location of the well. Show location of nearest existing well(s), if any nearby, by making (O's) and approximate distance between wells. For rig-supply wells, attach a "registered" permit plat (see §105.I) and for monitoring wells, complete spaces provided for the latitude and longitude of the well location, as well as section, township and range (see §105.J).

3. Item 3. Well Information Required data are available from water well contractor's or engineer's report.

4. Item 4. Describe, in detail, the method and materials used to plug the well or hole. Give amount of cement, bentonite, and water used. Give any other useful information, such as name of cementing company used, if any, sounded depth, any obstructions or problems encountered during plugging, size and length of casing removed or left in hole, etc. If necessary, attach another sheet or use reverse side of form to give details.

5. Item 5. Use this space to present any other pertinent information. For example, if the present owner is different than the person who had the well drilled, give the name of the initial owner in Item 5.

D. Certification that the work was performed in accordance with applicable rules and regulations must be signed and dated or the form will be returned for proper completion.

E. If there are any questions, please call or write to:

Louisiana Department of Transportation and Development
Attn: Chief Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245
Telephone (225) 379-1434*

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:976 (October 1985).

§517. Responsibility of the Owner

A. Unless specified otherwise in the rules and regulations stated herein, it shall be the responsibility of the owner to have an abandoned water well properly plugged and sealed in accordance with methods and standards stated in §531 within 90 calendar days after abandonment. If the owner fails to plug an abandoned well within the 90-day time period, enforcement procedures, as outlined in §519, will be initiated by the department.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§519. Failure of the Owner to Plug an Abandoned Water Well

A. When the owner fails to plug an abandoned water well within the time period specified in §517, the department, upon receiving information on the existence of such well, will order the owner to plug the well within 30 calendar days after receipt of the order.

B. If the owner fails to comply within the 30-day time period or does not offer, in writing, an acceptable alternative time interval for plugging the well, the owner will be considered in violation of R.S. 38:3094, which permits a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§521. Responsibilities of the Contractor

A. The contractor who agrees to plug an abandoned well or hole for the owner shall be fully responsible for plugging the well or hole in accordance with the rules, regulations and standards stated herein. He is also responsible for completing and submitting a plugging and abandonment form (DOTD-GW-2) to the department within 30 calendar days after completion of the plugging operation. The contractor shall also be responsible for informing the owner of the necessity of plugging and sealing any other water well or hole on the property that may have been previously abandoned or which may be abandoned in the future.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§523. Site Inspection by the Department Representatives

A. The department may order, at any time, that the site of an abandoned water well or hole be inspected by department representatives to determine whether the work has been satisfactorily completed in accordance with the standards stated herein and as stated on the Water Well Plugging and Abandonment Form (DOTD-GW-2). The owner and/or the contractor shall make all records available to the representatives of the department and the owner shall allow representatives to enter the property and visit the site(s).

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§525. Availability of Water Well Data

A. The drilling and construction records for a water well or test hole may be obtained from the owner, from the water well contractor, and/or from one of the following governmental agencies:

Department of Transportation and Development
Water Resources Section
Box 94245
Baton Rouge, LA 70804-9245 **OR**

U.S. Geological Survey
Water Resources Division
Box 66492
Baton Rouge, LA 70896

B. Reports and/or information on hydrology, geology, the occurrence of saline water-bearing and fresh water-bearing sands and quality of water may be obtained from the above-named governmental agencies and/or the following:

Department of Natural Resources
Office of Conservation
Box 44275
Baton Rouge, LA 70804 **OR**

Louisiana Geological Survey
Box G
Baton Rouge, LA 70803

C. Information on monitoring wells may be obtained from the owner, the water well contractor, the engineer, the Department of Transportation and Development, as listed above, and/or from the following agency:

Department of Environmental Quality
Solid and Hazardous Waste Division
Box 44066
Baton Rouge, LA 70804

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§527. Regulations for Determining Status of Wells or Holes and for Determining Plugging Responsibility

A. Following are the regulations for determining the status of a drilled, bored, cored, augered or driven water well or hole and for determining the party responsible for plugging abandoned wells and holes.

1. Active Status. A well is considered to be active if it is an operating well used to supply water.

2. Standby Status. A well is considered to be standby if it is used in emergencies or occasionally used to supply water.

3. Inactive Status. A well is considered to be inactive if it is not presently operating but is maintained in such a way that it can be put back in operation, with a minimum of effort, to supply water. Before a well can be put in inactive status, the owner shall present evidence to the department as to the condition of the well and as to his intentions to use the well in the future, as well as obtaining the department's written approval. As evidence of intentions, the owner shall be responsible for properly maintaining the well in such a way that:

a. the well and the annular space between the hole and casing shall have no defects that will permit the seepage of surface water into the well;

b. the well is clearly marked and is not a safety hazard;

c. the well is adequately capped in such a manner as to prevent easy entry by other than the owner;

d. the area surrounding the well is kept clear of waste and debris;

e. if the pump and/or motor have been removed for repair, replacement, etc., the well is adequately capped to prevent injury to people and to prevent the entrance of any contaminant or other objectionable material;

f. the well is not used for disposal or injection of trash, garbage, sewage, waste water and/or storm runoff; and

g. the well is easily accessible for routine maintenance and periodic inspection.

4. Abandoned Wells. A well is considered to be abandoned if its use has been permanently discontinued; its pumping equipment has been permanently removed; the well is in such a state of disrepair that it cannot be used to supply water and/or has the potential for transmitting surface contaminants into an aquifer; the well poses potential health or safety hazards, or the well is in such a condition that cannot be placed in the active, standby or inactive status. The owner of an abandoned well shall be responsible for plugging such a well in accordance with methods and standards stated in §531, within 90 calendar days from the initial date of abandonment. If the owner fails to plug an abandoned well within the 90-day time period, enforcement procedures, as outlined in §519, will be initiated by the department.

5. Abandoned Rig-Supply Water Wells

a. A water well drilled at an oil or gas drilling site to supply water for drilling activities shall be considered an abandoned well immediately after the termination of the oil or gas drilling-operations and removal of the rig from the site. The company in charge of the drilling of the oil or gas well (lessee) shall be responsible for plugging the abandoned water well, in accordance with §531, within 30 calendar days after the termination of oil or gas drilling operations and removal of the rig from the site.

b. If the ownership of the water well is to be conveyed to the landowner in lieu of plugging and abandoning the well, the well must conform to the requirements for active or inactive status. The ownership transfer must be made through a legal document advising the landowner of his responsibilities and obligations to properly maintain the well, including the proper plugging of the well when it is abandoned and no longer needed for water production activities. The company (lessee) shall provide the department with a copy of the transfer document within 30 calendar days after the transfer of the ownership. Upon receiving the document, the department will send a letter to the new owner requesting well use information and advising him/her of the appropriate regulations. The owner is required to respond within 30 calendar days, stating intended use and requesting an appropriate status, as outlined in §527.

6. Observation Wells. A well is considered to be an observation well if it is used by the owner, by governmental agencies, or by an appropriate engineering or research organization to obtain information on the water resources of an area. Observation wells shall be covered with an appropriate cap or cover to prevent unauthorized use or entry and to prevent entry of contaminants. It shall be the responsibility of the owner, organization or agency making the observations to prevent entry of any foreign materials or water into observation wells and to keep the surrounding area clear of waste, water, debris and other materials.

7. A well shall not be used for any injection or recharge studies until a permit is obtained in accordance with existing orders rules and regulations of the Department of Natural Resources, Office of Conservation.

8. An inactive water well may be used as an observation well; however, when it is no longer needed for observation purposes and the owner does not intend to convert it to an active status, the well shall be considered abandoned. The owner shall be responsible for plugging the abandoned well in accordance with Methods and Standards, stated in §531, within 90 calendar days after abandonment, unless agreement with the agency or organization which used the well for observation clearly delegates the plugging responsibility to the agency or organization.

9. A well constructed solely for observation purposes by an owner, a governmental agency, or an engineering or research organization, must be converted to an active, inactive or standby status when no longer needed for observation purposes, otherwise it shall be considered abandoned. It shall be the responsibility of the owner, agency or organization who installed the well to plug the abandoned well in accordance with methods and standards, stated in §531, within 90 calendar days after abandonment.

10. Abandoned Pilot Holes and Test Holes

a. A pilot hole, drilled with the intent to install casing and produce water, shall be considered an abandoned hole immediately after the termination of the drilling operations if the hole is not cased and/or a well is not developed or constructed. It shall be the water-well contractor's responsibility to plug the abandoned hole, in accordance with §531, within 30 calendar days after the termination of the drilling operations.

b. A test hole, drilled to obtain geologic, hydrologic and water-quality data shall be considered an abandoned hole immediately after the completion of all testing operations. The agency or the contractor in charge of the exploratory work is responsible for plugging the abandoned hole in accordance with §531, within 30 calendar days after the termination of drilling operations.

11. Abandoned Geotechnical Boreholes. A hole, drilled, bored, cored or augered to obtain soil samples to be analyzed for chemical and/or physical properties shall be considered abandoned immediately after the completion of the drilling and sampling operations. It shall be the drilling contractor's responsibility to plug the abandoned hole in accordance with methods and standards stated in §531 within 30 calendar days after the termination of drilling and sampling operations.

12. Abandoned Heat Pump Holes (Closed Loop System). A hole drilled to install piping for an earth-coupled water source heat system shall be considered an abandoned hole if the piping is not installed and/or the hole is not plugged by the drilling contractor in accordance with methods and standards, stated in §531, within 30 calendar days after completion of drilling operations. It shall be the drilling contractor's responsibility to plug the abandoned hole in accordance with methods and standards, stated in §531, within 30 calendar days after the hole is considered abandoned.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:961 (October 1985).

§529. Plugging and Filler Materials

A. Plugging Material

1. It is recognized that no material is completely impervious; however, experience and tests have shown that cement-bentonite slurry has a low permeability, good sealing properties, and low shrinkage factor, so as to be preferred for use when plugging an abandoned water well or hole. Cement-bentonite slurry is a mixture of cement, bentonite, and water, consisting of not more than 8 percent bentonite by dry weight of the cement and a maximum of 10 gallons of water per sack (94 pounds) of cement. Additives, in the approved and proper ratio, may be added to the slurry, if required. If the slurry is to be prepared in the field it is recommended that the bentonite be added after cement and water are thoroughly mixed.

2. Neat cement, which is a mixture of cement and water, consisting of not more than 5 gallons of water per sack (94 pounds) of cement, may be used as plugging material in lieu of cement-bentonite slurry.

3. When permitted by the methods and standards stated in §531, heavy drilling mud or bentonite slurry, weighing not less than 9 pounds per gallon, may be used as plugging material. The plugging material shall be free of foreign and organic additives.

B. Filler Material. When permitted by the methods and standards stated in §531, heavy drilling mud or bentonite slurry, weighing not less than 9 pounds per gallon, coarse ground bentonite or clean sand may be used as filler material. The filler material shall be free of foreign and organic additives.

C. Calculations to Verify Adequacy of Plugging Materials. To assure an abandoned water well or hole is plugged and sealed properly and that there has been no "jamming" or "bridging" of the material, verification calculations and measurements shall be made by the contractor to determine whether the volume of the material placed in the well or hole at least equals the volume of the casing or hole plugged and/or filled. When bridge plugs are used, sufficient time shall be allowed for the material to set. Any measurements and calculations made in setting and verifying the location of the plug shall be made available to the department upon request. The department shall be solely responsible for determining whether a well or hole is satisfactorily plugged or sealed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:962 (October 1985).

§531. Methods and Standards for Plugging Abandoned Water Wells and Holes

A. The following methods and standards shall be used for the plugging of abandoned water wells and holes. If there is a need for variance from these regulations and/or clarification is required, departmental approval shall be obtained in writing, before the plugging operation is begun. For variance requests, refer to §513.

B. Methods and Standards for Plugging Abandoned Water Wells. The following methods and standards shall apply to all abandoned water wells, regardless of use or type.

C. Removal of Obstructions from the Well. Before the plugging operation is begun, the drilling and construction records for the well should be obtained and studied (see §525). An investigation of the well shall be made to determine if there is any obstruction in the well that would interfere with the plugging operation. Any obstruction in the well shall be removed, using an acceptable method, before initiating the plugging operation.

D. Cutting off the Top of the Casing. In areas subject to subsidence and/or farming, the top of the casing shall be cut off a minimum of 3 feet below the surface of the ground before plugging operation begins. After filling the well with cement-bentonite slurry, the excavation above the top of the cement plug shall be filled with compacted soil to minimize future hazards to farming equipment, etc. In other areas, the top of the casing shall be cut off at or below the ground surface. Under no circumstances shall the top of the casing protrude above the surface of ground.

E. Plugging Material for the Screen. The screen or the area opposite the production aquifer (as in open hole construction) may be filled with filler materials specified in §529.B in lieu of cement-bentonite slurry.

F. Plugging Method. The entire well shall be plugged with cement-bentonite slurry from bottom of the well up to the ground surface using the pump-down method, preferably in one continuous operation. Placement of plugging material by pouring or dropping through the water shall not be permitted.

G. Annular Space. If the annular space of the abandoned well is not already sealed, the plugging material shall be brought up to the surface and allowed to spill over the top of the casing and into the annulus, sealing the annular space between the casing and the borehole. If the annular space is already sealed, the plugging material shall be brought up to the ground surface, unless specified otherwise.

H. Temporary Shut Down. When plugging of an abandoned water well or hole is temporarily suspended, such as overnight shut down or awaiting material, the well or hole shall be covered and the immediate area conspicuously marked to protect and warn the public. The cover shall be sufficiently strong and anchored to prevent easy or unintentional entry. The well or hole shall be sealed to prevent the seepage of surface water and foreign material into the well or hole.

I. Areas of Confirmed Contamination. In areas of confirmed ground water or soil contamination, the entire well shall be plugged with cement-bentonite slurry. The annular space of the well, if not already sealed, shall be sealed by perforating or ripping the casing and forcing cement-bentonite slurry under pressure into the annular space and surrounding formation to prevent the entry of contaminated fluids into an aquifer and to prevent the movement of water from one aquifer to another.

J. Areas of Potential Contamination. In areas of potential ground water or soil contamination, the entire well shall be plugged with cement-bentonite slurry. It is recommended that the annular space of the well, if not already sealed, be perforated or ripped and cement-bentonite slurry forced under pressure into the annular space and surrounding formation to safeguard against any possible entry of contaminated fluids into an aquifer and to prevent the movement of water from one aquifer to another.

K. Plugging of Abandoned Water Well from Which Some or All of the Casing Has Been Removed

1. If the casing remaining is in the upper part of the well, the well shall be sounded to determine the amount, if any, of "cave in." The part of the hole filled with "cave in" material shall be reamed or drilled out of the original depth of the well and then the entire hole shall be plugged with cement-bentonite slurry from the bottom, up to the ground surface, using the pump-down method.

2. If the casing (including the screen) remaining is in the lower part of the well, the well and hole shall be completely filled with cement-bentonite slurry from the bottom up to the ground surface, using the pump-down method.

3. If all the casing and screen is removed, the hole for the entire original depth of the well shall be plugged with cement-bentonite slurry from the bottom, up to the ground surface, using the pumpdown method.

L. Plugging of Abandoned Monitoring Wells. The entire well shall be plugged with cement-bentonite slurry from bottom of the well, up to the ground surface, using the pump-down method.

NOTE: Plugging of abanboned monitoring wells associated with facilities regulated by the Department of Environmental Quality (DEQ) require approval from that department prior to actual plugging.

M. Plugging of Abandoned Dug or Augered Wells. Domestic dug or augered wells shall be plugged from bottom of the well up to the ground surface with cement-bentonite slurry or with local fill material such as silt, sand, clay, native soil, or a mixture thereof. If local fill material is used, it should be allowed to settle, and then permanently capped with cement or compacted clay.

N. Plugging of Abandoned Holes. If the hole penetrates an aquifer containing saline water, the entire hole shall be plugged with cement-bentonite slurry from bottom of the hole, up to the ground surface using the pump-down method; otherwise, the hole shall be plugged in accordance with §531.O.-R.2

O. Plugging of Abandoned Pilot Holes

1. The entire hole shall be plugged with cement-bentonite slurry from bottom of the hole, up to the ground surface, using the pumpdown method.

Note: If an aquifer (see §113.A for definitions) is not penetrated, the hole shall be plugged with either cement-bentonite slurry or bentonite slurry from bottom of the hole, up to a depth of 25 feet below the ground surface and then the upper 25 feet of the hole shall be plugged with cement-bentonite slurry, using the pump-down method.

P. Plugging of Abandoned Test Holes. An abandoned test hole shall be plugged with cement-bentonite slurry from bottom of the hole, up to the ground surface, using the pump-down method. If the casing cannot be removed, in addition to plugging the entire casing with cement-bentonite slurry, the annular space must also be cemented as per requirements of §527 or as approved by the department.

Q. Plugging of Abandoned Geotechnical Boreholes

1. The entire hole shall be plugged with cement-bentonite slurry from bottom of the hole, up to the ground surface, using the pumpdown method; or

2. The hole shall be plugged with bentonite slurry from bottom of the hole, up to a depth of 25 feet below the ground surface and then the upper 25 feet of the hole shall be plugged with cement-bentonite slurry, using the pump-down method.

3. For boreholes of 25 feet or less, drill cuttings from the original hole may be used to plug the hole in lieu of cement-bentonite slurry, provided that an aquifer is not penetrated and provided that a concrete cylinder is pushed into the hole to form a permanent seal at the ground surface.

Note: Plugging of geotechnical borehole associated with facilities regulated by the Department of Environmental Quality (DEQ) require approval from that department prior to actual plugging.

R. Plugging of Heat Pump Holes (Closed Loop System)

1. The entire hole shall be plugged with cement-bentonite slurry from bottom of the hole, up to the bottom of the horizontal trench, using the pump-down method; or

2. The hole shall be plugged with bentonite slurry from bottom of the hole, up to a depth of 25 feet below the bottom of the horizontal trench and then the upper 25 feet of the hole shall be plugged with cement-bentonite slurry, using the pump-down method.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:963 (October 1985).

§533. Enforcement Actions

A. Provisions addressing enforcement of this Chapter appear in R.S. 38:3096, as follows:

1. Whoever knowingly and willingly violates a provision of this Chapter, or a rule, regulation or order of the director or a board hereunder, shall be subject to a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation if a penalty for the violation is not otherwise provided in this Chapter.

a. The place of suit to recover this penalty shall be selected by the director or board, as may be appropriate, in the district court of the parish in which any one of the defendants resides, or in the district court of the parish where the violation took place.

b. Suit shall be at the discretion of the director or board as may be appropriate and shall be instituted and conducted in his or its name by the attorney general or by the district attorney of the district under the direction of the attorney general.

2. Whoever knowingly and willfully aids or abets a person in the violation of a provision of this Chapter, or in any rule, regulation or order made hereunder shall be subject to the same penalties provided herein for the principal violator.

B. Falsification of Documents. Falsification of documents to evade regulations, as well as penalties for said falsifications, appears in R.S. 38:3095 as follows.

1. No person shall, for the purpose of evading this Chapter or any rule, regulation or order made thereunder:

a. make, or cause to be made, any false entry or statement of fact in any report required to be made by this Chapter, or by any rule, regulation or order made hereunder; or

b. make, or cause to be made, any false entry in an account, record or memorandum kept by any person in connection with the provisions of this Chapter or of any rule, regulations or order made thereunder; or

c. remove out of the jurisdiction of the state or destroy or mutilate, alter, or by any other means, falsify any book, record, or of the paper pertaining to the matters regulated by this Chapter, or by any rule, regulation or order made thereunder.

2. Whoever violates this Subsection shall be fined not more than $5,000 or imprisoned not more than six months or both.

3. The penalty provision for falsification of documents required under the provisions of this Chapter are therefore criminal in nature and will be enforced through the district attorney having jurisdiction where said violation occurs. It should also be noted that utilization of the United States Mail in the falsification of documents constitutes a violation of Title 18 of the United States Code (Mail Fraud), and such violations will be referred to the appropriate United States attorney.

C. Appeals. An alleged violator may appeal any order of the department by requesting a hearing. The hearing request must be made to the department, in writing within 30 calendar days of the original order and must be sent by "Certified Mail/Return Receipt Requested". After receiving the request, the department will arrange a hearing to determine what other remedial action will serve to effect compliance with the rules and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:2091-R.S. 38:3097.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:964 (October 1985).

Chapter 7. Installing Control Devices on Free Flowing Water Wells

§701. Authorization

A. As announced in the October 1985 issue of the *Louisiana Register*, the rules and regulations, stated herein, were prepared by the Louisiana Department of Transportation and Development, Office of Public Works, hereafter referred to as "department", in accordance with R.S. 38:3094(7)(A).

B. The rules and regulations, stated herein, will become effective on November 1, 1985 and supersede the rules and regulations which had been in effect since June 1, 1977.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:964 (October 1985).

§703. Purpose

A. The purpose of the rules and regulations, stated herein, is to conserve the ground water resources of the state by requiring that the owner install control devices on free flowing water wells (for glossary of terms, refer to §113.A of this Chapter) producing in excess of 25,000 gallons per day. To accomplish this requirement, the owner shall install a flow control device on each free flowing water well in accordance with the rules and regulations stated in this Section.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:964 (October 1985).

§705. General Rules and Regulations

A. The rules and regulations, stated herein, apply to all free flowing water wells producing in excess of 25,000 gallons per day. A free flowing well is an artesian well which is allowed to flow, under natural conditions, at or above the land surface.

B. Exemptions. The following water wells are exempt from the provisions of this Chapter:

1. free flowing water wells producing 25,000 gallons per day or less;

2. water wells producing saline water in connection with oil and gas production.

C. Determination of Yield. The department will measure the yield of the free flowing water well at no cost to the owner. If the owner disagrees with the measurement made by the department and wishes to have a third party measure the yield, the costs shall be borne by the owner. The method used to measure the well yield shall be acceptable to the department.

D. Wells In a State of Disrepair or Nonuse. If a water well is in such a state of disrepair that it cannot be used and a control device cannot be installed, it shall be considered abandoned and shall be plugged by the owner in accordance with the provisions of Chapter 5 of this Part, entitled "Rules, Regulations and Standards for Plugging Abandoned Water Wells and Holes".

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:965 (October 1985).

§707. Responsibility of the Owner

A. The owner shall be the party responsible for installing a flow control device on each free flowing water well producing in excess of 25,000 gallons per day.

B. The owner shall allow representatives of the department to enter the property and visit the well site to measure the well yield, verify the installation of a control device, or inspect the completed work.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:965 (October 1985).

§709. Responsibility of the Department

A. The department will measure the yield of the free flowing water well at no cost to the owner.

B. It shall be in the sole responsibility of the department to determine whether a control device should be installed on a well.

C. At the request of a parish police jury or other governmental entity, the department may make a survey to locate and report on the location of free flowing water wells.

D. The department may enter into a financial cooperative agreement with the parish police jury or other governmental entity to have control devices installed on those free flowing water wells which produce over 25,000 gallons per day.

E. The department shall, in no way, be held responsible for a well "sanding up" or failing to yield water after a control device is installed on the well.

F. The department, upon receiving information on the existence of a free flowing water well, shall proceed as follows:

1. arrange to measure the yield of the well and determine whether a control device should be installed;

2. if a control device is required, the department will issue an order to the owner to require the installation of a control device on the well within 90 calendar days from the date of the said order. When the installation of the control device is completed, the owner shall apprise the department, in writing, within 30 calendar days after completion of work.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:965 (October 1985).

§711. Failure of Responsible Party to Install a Control Device

A. If the owner fails to comply with the department's order concerning installation of a control device within the 90-day time period or does not offer, in writing, an acceptable alternative time interval for installing such a device, the owner will be considered in violation of R.S. 38:3094(A)(7), which permits a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:965 (October 1985).

§713. Enforcement Actions

A. Provisions addressing enforcement of this Chapter appear in Louisiana Revised Statute 38:3096, as follows.

1. Whoever knowingly and willfully violates a provision of this Section, or a rule, regulation, or order of the director or a board hereunder, shall be subject to a civil penalty of not more than $1,000 a day for each day of violation and for each act of violation, if a penalty for the violation is not otherwise provided in this Section.

a. The place of suit to recover this penalty shall be selected by the director or board, as may be appropriate, in the district court of the parish of the residence of any one of the defendants, or in the district court of the parish where the violation took place.

b. Suit shall be at the direction of the director or board, as may be appropriate, and shall be instituted and conducted in his or its name by the attorney general or by the district attorney of the district under the direction of the attorney general.

c. Whoever knowingly and willfully aids or abets a person in the violation of a provision of this section, or in any rule, regulation, or order made hereunder, shall be subject to the same penalties provided herein for the principal violator.

B. Falsification of Documents. Falsification of documents to evade regulations, as well as penalties for said falsifications, appears in R.S. 38:3095 as follows.

1. No person shall for the purpose of evading this Chapter, or any rule, regulation, or order made thereunder:

a. make or cause to be made any false entry or statement of fact in any report required to be made by this Chapter or by any rule, regulation, or order made hereunder; or

b. make or cause to be made false entry in an account, record, or memorandum kept by any person in connection with the provisions of this Chapter or of any rule, regulation, or order made thereunder; or

c. remove out of the jurisdiction of the state, or destroy or mutilate, alter, or by any other means falsify any book, record, or other paper pertaining to the matters regulated by this Chapter or by any rule, regulation, or order made thereunder.

2. Whoever violates this Section shall be fined not more than $5,000 or imprisoned not more than six months or both.

3. The penalty provisions for falsification of documents required under the provisions of this Chapter are therefore criminal in nature and will be enforced through the district attorney having jurisdiction where said violation occurs. It should also be noted that utilization of the United States Mail in the falsification of documents constitutes a violation of Title 18 of the United States Code (Mail Fraud), and such violations will be referred to the appropriate United States attorney.

C. Appeals. An alleged violator may appeal any order of the department by requesting a hearing. The hearing request must be made to the department, in writing, within 30 calendar days of the original order and must be sent by "Certified Mail-Return Receipt Requested". After receiving the request, the department will arrange a hearing to determine what other remedial action will serve to effect compliance with the rules and regulations.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:3094.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 11:965 (October 1985).

Title 56
PUBLIC WORKS
Part III. Flood Control and Water Management
Subpart 1. Water Resources and Flood Control

Chapter 1. Funding of Water Resources

Subchapter A. Priorities for Funding of Water Resources Projects

§101. Purpose of Rule

A. This rule establishes procedures by which governmental entities may nominate water supply and water pollution control projects for priority of funding through specific legislative appropriation for the purposes indicated in R.S. 38:32B(11). The rule also defines the procedures by which the Office of Public Works (OPW) shall rank in priority order of funding the various projects nominated by governmental entities, based on the recommendations (Regional Reports) of the state's eight regional planning commissions. OPW shall submit an annual report of this recommended project priority ranking to the governor, the house Committee on Transportation, Highways and Public Works and the senate Committee on Transportation, Highways and Public Works, and the Joint Legislative Committee on the Budget by January 15 of each calendar year.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:883 (September 1985).

§103. Definitions

A. The following terms shall have the meanings ascribed to them in this rule.

Annual Report the report submitted by January 15 of each calendar year by the Office of Public Works to the governor and committees of the legislature pursuant to the requirements of R.S. 38:34, which report contains a ranking in priority order for funding the various water resources projects of governmental entities based on the recommendations (Regional Reports) of the state's eight regional planning commissions.

Construction entering into a contract for erection or physical placement of materials, piping, earthwork or buildings which constitute a project as defined in these regulations.

Entity any municipality, parish, special district or other political subdivision or combination thereof having the authority to own and operate a project.

Fiscal Year the state fiscal year during which priority of funding is recommended for projects in the annual report by the Office of Public Works. Fiscal year refers to the time period beginning on the July 1 following the date on which an annual report is submitted, and ending on June 30 of the following calendar year.

OPW the Office of Public Works of the Department of Transportation and Development.

Planning Commission one of the state's eight regional planning commissions created pursuant to the authorization provided in Subpart C of Part IV of Chapter 1 of Title 33 of the Louisiana Revised Statutes of 1950.

Project

a. any engineering undertaking or work to conserve and develop surface or subsurface water resources of the state for any useful and lawful purpose by the acquisition, improvement, extension, or construction of water storage projects and filtration and treatment plants;

b. any system necessary to distribute water from storage to points of distribution or filtration and treatment plants;

c. any facility for the distribution of water from storage or filtration and treatment plants to wholesale or retail purchasers;

d. any sewerage system to improve or develop sewage treatment, collection, or distribution capabilities consistent with provisions of R.S. 38:32.

Regional Report the report submitted by September 16 of each year by each of the state's eight regional planning commissions to the Office of Public Works, which report contains a list of projects recommended for funding during the fiscal year beginning on the following July 1, and which report ranks in order of priority those projects needing and deserving of project funding.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:883 (September 1985).

§105. Priority Policy

A. It is intended that the project priority evaluation and rating system provided for in this rule shall support the objective of the Louisiana Water Resources Program to provide an adequate and safe supply of water to Louisiana users through a policy and program addressing the short term and long term availability of and need for water. The

priority system is to be used to allocate scarce state resources to the most worthy projects, and thereby assist entities in obtaining for their constituencies needed water supply and water pollution control facilities.

B. The provision of assistance by the state is not intended to supplant any responsibilities delegated to entities for the construction, operation and maintenance of water supply and water pollution control facilities. It is expected that entities shall continue to provide such facilities where needed and to pay for them to the extent of their capabilities. State assistance is intended as a source of funds for projects which otherwise lack sufficient local, federal and private funding, and as an incentive to provide water resource facilities needed to achieve statewide water resources program objectives.

C. Entities sponsoring projects are expected to seek and use federal grant assistance for project construction to the fullest extent such funds are available or expected to become available. It is specifically intended that priority funds shall not pay project cost share eligible for payment through federal grant assistance programs.

D. Entities are expected to finance water supply and sewerage projects without capital outlay assistance from the state to the extent of their capabilities. Entities should use ad valorem taxes, revenues generated from the project and private donations to obtain an optimum level of capital funds from local sources. The maximum level of state grant assistance under the program is 25 percent of the project construction costs.

E. The priority system is intended to achieve an equitable and fair distribution of any available funds considering needs of the area to be served by projects and the benefits to be realized in comparison to the needs of other areas requesting assistance. Past and present effort by entities to limit waste and conserve water are considered in priority assessment.

F. Entities may not obtain priority for funding of projects which provide facilities that over extend technical and financial capability to operate and maintain properly. Priority based on need shall not accrue to an entity because of negligence in the operation and maintenance of existing facilities, or failure to control wastage through appropriate water conservation measures such as consumer metering, leak control, etc.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:883 (September 1985).

§107. Eligible Sponsors of Projects

A.. Any entity may request that one or more projects be considered and ranked in priority order by the planning commission having jurisdiction.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:883 (September 1985).

§109. Annual Report

A. By not later than January 15 of each calendar year, OPW shall prepare an annual report to the governor, the house Committee on transportation, Highways and Public Works, and the Joint Legislative Committee on the Budget. The annual report shall contain a list of projects ranked in priority order of funding, a statement of project needs and benefits and the rationale for priority ranking.

B. The list of projects ranked in priority order shall be based on the priority ranking system described in these regulations, and the regional reports received each year from the planning commissions.

C. The prospective time period during which the annual report requests priority of funding for the various projects listed therein is during the state fiscal year which begins on the July 1 following the annual report filing date.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:883 (September 1985).

§111. Regional Reports

A. Upon notification by OPW, the planning commissions shall prepare and submit to OPW by September 16 of each year a regional report. The regional report shall contain a list of projects located within the jurisdiction of the planning commission ranked in the priority order of funding recommended by the commission along with application forms and supporting documents for each project listed in the regional report.

B. On or about March 1 of each year, each planning commission shall solicit project proposals (applications) from entities within the planning commission's area of jurisdiction, and establish deadlines for the receipt of applications and supporting documents for projects to be included in the current regional report.

C. Planning commissions shall return to applicant entities any incomplete or incorrect project applications. Planning commissions may defer listing in the regional report any projects with inadequate application information.

D. Projects in the regional report shall be ranked by the planning commission in the order of priority of funding recommended by the commission beginning with the project most needing and deserving of funding. Comparative ranking of projects by the planning commission shall be according to the priority system described in these regulations using guidelines acceptable to and approved by OPW.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

§113. Projects Eligible for Priority of Funding

A. All projects in the Annual Report of OPW are eligible for priority of funding during the subject fiscal year depending upon the amount of funds, if any, which may be appropriated for the purpose.

B. Projects properly included and ranked in a regional report may be included in an annual report and thus be eligible for priority of funding.

C. A project eligible for priority of funding may be a part or phase of a multi-part construction program extending several years into the future. Each project (phase) for which priority of funding is requested must be able to provide the benefits claimed in the application.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

§115. Projects Excluded from Priority of Funding

A. The following projects are not eligible for inclusion in an annual report:

1. projects eligible for funding under the Hazardous Waste "Superfund" Program;

2. projects eligible for funding under the Statewide Flood Control Program;

3. projects listed in a previous Annual Report and for which a state grant under the provisions of Act 625 of 1983 has already been offered;

4. projects for which there is an incomplete or incorrect application including supporting documents;

5. projects which are not included in a regional report of a regional planning commission.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

§117. Project Costs Eligible for Priority Funding

A. The following project costs are eligible for priority of funding in the annual report:

1. project costs related to the achievement of the water resource management purposes for which priority ranking is established in the annual report;

2. the construction costs of a project including architectural and engineering costs for preparing construction plans and specifications;

3. the cost of acquiring land necessary to construct a project. The state of Louisiana shall receive a lien against the proceeds of any subsequent sale of land so acquired in an amount equal to the percent of state cost-share at purchase.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

§119. Project Costs Not Eligible for Priority Funding

A. The following costs are not eligible for priority funding:

1. construction costs for facilities not needed to achieve the water resources management purposes for which priority ranking is established in the annual report;

2. operation and maintenance costs, ordinary repairs, laboratory services and facilities planning.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

§121. Applications for Priority of Funding

A. Entities desiring priority of funding for proposed projects may file requests with the planning commission in whose area of jurisdiction an applicant entity is located (see following list). The annual filing deadline with the regional planning commissions is June 30. The application for each project should be on a form and in the format approved by OPW, and shall contain all of the essential information prescribed in program guidelines and procedures published by OPW.

The Eight Regional Planning Commissions and the Parishes within the Respective Geographic Areas	
District Number 1: New Orleans Regional Planning Commission	
Jefferson	Orleans
St. Tammany	Plaquemines
St. Bernard	
District Number 2: Capital Economic Development District Council, Inc. and Capital Regional Planning Commission	
Ascension	Pointe Coupee
East Baton Rouge	St. Helena
East Feliciana	Tangipahoa
Iberville	Washington
Livingston	West Baton Rouge
West Feliciana	
District Number 3: South Central Planning and Development Commission	
Assumption	St. James
Lafourche	St. John the Baptist
St. Charles	Terrebonne
District Number 4: Evangeline Economic and Planning District Council, Inc.	
Evangeline	St. Landry
Lafayette	Vermilion
St. Martin	Acadia
St. Mary	Iberia
District Number 5: Imperial Calcasieu Regional Planning and Development Commission	
Allen	Cameron
Beauregard	Jefferson Davis
Calcasieu	
District Number 6: Kisatchie-Delta Regional Planning and Development District	
Winn	Vernon
Grant	Concordia
LaSalle	Catahoula
Rapides	Avoyelles

District Number 7: The Coordinating and Development Corporation	
Bienville	Lincoln
Bossier	Natchitoches
Caddo	Red River
Claiborne	Webster
DeSoto	Sabine
District Number 8: North Delta Regional Planning and Development District, Inc.	
Caldwell	Ouachita
East Carroll	Richland
Franklin	Tensas
Jackson	Union
Madison	West Carroll
Morehouse	

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:884 (September 1985).

Subchapter B. Project Priority Ranking System

§123. General Overview

A. The following procedures shall be used by the Office of Public Works and the Regional Planning Commissions to rank projects in descending order of priority. Priority rank will be determined by the numerical value of points assessed to each project according to the urgency of need (base value) with additional priority value points added thereto for comparative benefits to be realized, the ability of the entity sponsor to finance without capital assistance, economic needs and other considerations in the project area, past measures by the entity to limit waste and conserve water, and the relationship and consistency of the project to the state's policy for water resources management.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§125. Base Priority Value

A. Each project for which a request for priority is received by a planning commission is given a base priority point value depending on the urgency of need. Situations involving an acute and serious threat to community health and safety shall receive highest base point numerical values. The table shall be used for determining the base priority point value of each project.

Base Priority Value Table*		
Order of Need	**Project**	**Priority Value Points**
1st	Immediate and Substantial Hazards in Community Drinking Water Systems:	
	a. Quality Hazards [Acute and Serious exceedance of the maximum contaminant level (MCL), or structural defect which cause immediate jeopardy of serious MCL violations, such as bacteria, heavy metals and organic toxins, but not slight exceedance of fluoride, chloride and dissolved solids MCLs]	4 to 4.9
	b. Quantity Hazards [acute and serious drinking water shortages endangering health of community].	3 to 3.9
2nd	Immediate Community Needs [Water Supply or sewerage facilities to correct an existing water quality standards violation or high risk of system failure]	2 to 2.9
3rd	Short Range Community Needs [Water Supply or sewerage facilities for community development]	1.5 to 1.9
4th	Long Range Water Resources Projects [Flow augmentation, aquifer recharge, impoundments, land treatment, barriers, etc.]	1 to 1.4
*Complete details available upon request from the Office of Public Works.		

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§127. Priority Value Points for Comparative Benefits

A. To the base priority value indicated for each project according to the preceding table is added additional numerical value for each of the following purposes:

1. an amount not to exceed 1.0 in value, representing the ratio of persons benefitted directly by the project per $100 of total project cost (including federal grant cost share, if any). This additive value factor encourages projects with the greatest public benefit;

2. a bonus in the amount of 10 times the decimal value by which the federal, local and other non-state shares of the project cost exceed 75 percent of the total project construction costs. For example, a project with 90 percent federal and local funding would receive a bonus of 10 x (0.90 - 0.75) = 1.5 points. This bonus encourages and rewards a maximum use of available federal, entity and private funding resources.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§129. Priority Value Points to "Needing and Deserving" Projects

A. After determining project priority value for each candidate project according to the base priority value table found in §125, each planning commission shall then consider the relative merits of each project requesting funding, including past and present measures to conserve and use wisely the locally available water resources. The relative needs of each project entity, including local unemployment rates, median family income and prospective economic benefits accruing from the project shall also be considered. Each planning commission may then add to the priority value score of four projects in the region:

1. 4.0 points for the most needing and deserving project;

2. 3.0 points for the second most needing and deserving project;

3. 2.0 points for the third most needing and deserving project;

4. 1.0 point for the fourth most needing and deserving project.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§131. Regional Priority Ranking

A. Each planning commission shall then rank all projects in priority order beginning with the project having the highest total priority point score and ending with the lowest. In the event of tie scores, lower cost projects shall be ranked ahead of higher cost projects. This list of projects in the recommended order of priority for funding shall be included in the regional report.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§133. Ranking of Projects by the Office of Public Works

A. OPW, upon receipt of the regional reports containing recommended project priority ranking from the planning commissions, shall rank all recommended projects in priority order according to priority value. OPW may add up to 4.0 priority value points on one or more of the nominated projects so as to achieve priority ranking order that is consistent with overall state water resources management plans and to insure that a minimum of 5 percent and a maximum of 30 percent of the recommended priority project funds in each fiscal year is allocated to projects in each of the eight planning commission districts. OPW shall also add priority value points to specific projects, if necessary, so that the first projects in priority order on the list are one project from each of the eight regional planning districts nominating projects for priority of funding.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§135. Verification of Need

A. The application of an entity claiming project priority due to an immediate and substantial hazard in the community drinking water system shall contain a certificate from the state health officer or his duly authorized representative verifying existence of the hazard. Any entity claiming priority due to violation of a state or federal water quality standard or criterion shall provide, in the application for priority of funding, statements or other documentation from the appropriate state or federal regulatory agencies verifying the conditions claimed.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§137. Conservation of Resources Required

A. Planning commissions and OPW shall give full consideration to past and present efforts by an entity to limit waste and conserve water in comparing need for a requested project with other requested projects.

B. Entities requesting priority of funding for a project shall provide assurance in the application for assistance that all appropriate water conservation measures will be taken, including consumer usage metering, service charges based on usage, leak detection and control systems, ordinances requiring use of water conserving plumbing fixtures and valves, etc.

C. An entity experiencing an acute or immediate need due to neglect, wastage or failure of entity to properly maintain existing facilities, shall not receive high priority base value due to the hazard thus created.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§139. Accurate Cost Estimates Required

A. Entities requesting priority of funding shall provide accurate estimates of project costs.

B. The state shall retain the entire amount of overestimated state and local project costs up to the total amount of any state grant.

C. Any grant monies retained by the state may be used to increase grants to other funded priority projects which encounter actual project construction costs exceeding estimated costs.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

§141. Regulatory Agency Approvals

A. Entities requesting project priority shall assure compliance with all state and federal rules and regulations applicable to a project of the type undertaken, including those pertaining to financing, construction, maintenance and operator certification. No state grant funds shall flow to a project unless all required approvals and permits, including preconstruction permits, are obtained by the entity.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:30 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 11:885 (September 1985).

Chapter 3. Statewide Flood Control Program

Subchapter A. Procedures for Implementing Statewide Flood Control Program

§301. Sequence

A. This Section describes the sequence of events involved in implementing the Statewide Flood Control Program. The sequence begins and ends each year during the regular session of the legislature. Specific procedures are described briefly in this Section and are presented more fully in the pre-application, application, and evaluation of proposed projects and distribution of funds sections of this document.

1. Pre-Application and Resolution (April 1-May 1). Sponsoring authorities are to complete the pre-application, and must submit their completed pre-applications and resolutions to OPW not later than 4 p.m. on May 1. Pre-applications received after May 1 will not be eligible for the program in the current year. Pre-applications must include documentation of the flooding problem in order to be considered.

2. Evaluation Committee Review of Pre-Applications (May 1-June 1)

a. Pre-applications will be reviewed and screened by the Flood Control Project Evaluation Committee (Evaluation Committee) consisting of the assistant secretary of the Office of Public Works, the director of the Louisiana Geological Survey, and the director of the State Planning Office, or their designated representatives. The reasons for the review are to determine whether there is documented evidence of flood damages; whether the sponsoring authority is requesting OPW assistance in preparing the full application; whether the proposed solution (if such a solution has been developed at this time) is eligible for funding under this program; and whether the sponsoring authority is willing to assume responsibility for its share of the cost, including new rights-of-way, operation and maintenance costs, and applications that are determined to other obligations.

b. All pre-applications that are determined to be ineligible by the Evaluation Committee will be returned with appropriate comments by June 1. All eligible pre-applications will remain on file until a formal application is submitted or for a period of four subsequent funding years. The pre-application evaluation criteria for OPW assistance are described in the Pre-Application Section.

c. Pre-applications that have been determined to be eligible and that may move on to the application stage include:

i. pre-applications submitted by sponsoring authorities with a population of more than 50,000;

ii. pre-applications from sponsoring authorities to receive assistance from OPW in the application stage;

iii. pre-applications from sponsoring authorities eligible for assistance from OPW in the application stage that cannot be handled by OPW in time for the current funding year that chose to prepare their own applications.

d. Pre-applications in the third group may be processed in the application stage by OPW in time for the next year's funding. Applications on which OPW initiates work will receive increased priority for assistance in application preparation in the following funding years. The sponsoring authorities need not wait for OPW assistance. However, they may prepare and submit their own applications.

e. At the end of the pre-application review period, applicants will be notified of the status of their pre-applications. The sponsoring authorities seeking OPW assistance in preparing an application will be informed by letter whether they:

i. will receive OPW assistance in time for the current funding cycle; or

ii. will not receive assistance at this time and must compete for assistance again the following year.

f. Authorities completing their own applications may automatically move into the application stage unless the proposed solution is not eligible as a project under the program. If the proposed solution is not consistent with the program's objectives, the Evaluation Committee may suggest alternative solutions which must be addressed in order for the application to be eligible.

3. Application Preparation (June 1-November 1)

a. Applications may be submitted anytime between June 1 and November 1, but must be received by OPW no later than 4 p.m. November 1, in order to be considered for funding during the upcoming legislative session. Applications received after this deadline will not be eligible for the current year's program. Applications for which pre-applications were received and approved from the previous year(s) may also be accepted during this period, provided all other procedures and deadlines have been met.

b. On request, OPW will prepare applications for eligible sponsoring authorities to the extent possible. All applications must adhere to the methodologies described in the instructions contained in the Application Section.

4. Evaluation Committee Review of Applications (November 1-April 1)

a. During this five-month period, the Evaluation Committee will review and evaluate all completed applications in order to make recommendations to the Joint Legislative Committee on Transportation, Highways, and Public Works for funding. Applications will be divided into urban and rural categories. Applications for projects in the nine major urban areas comprise the urban category, as shown in the Figure 1, and compete against all other urban projects for funding. All other applications will be grouped by funding district as shown in Figure 2. Rural projects are subdivided into two categories, rural-developed and rural-undeveloped. Rural-undeveloped projects compete only against other rural-undeveloped projects in the same funding district and likewise for rural-developed projects. Proposed projects will be evaluated and ranked based on criteria established by the Evaluation Committee.

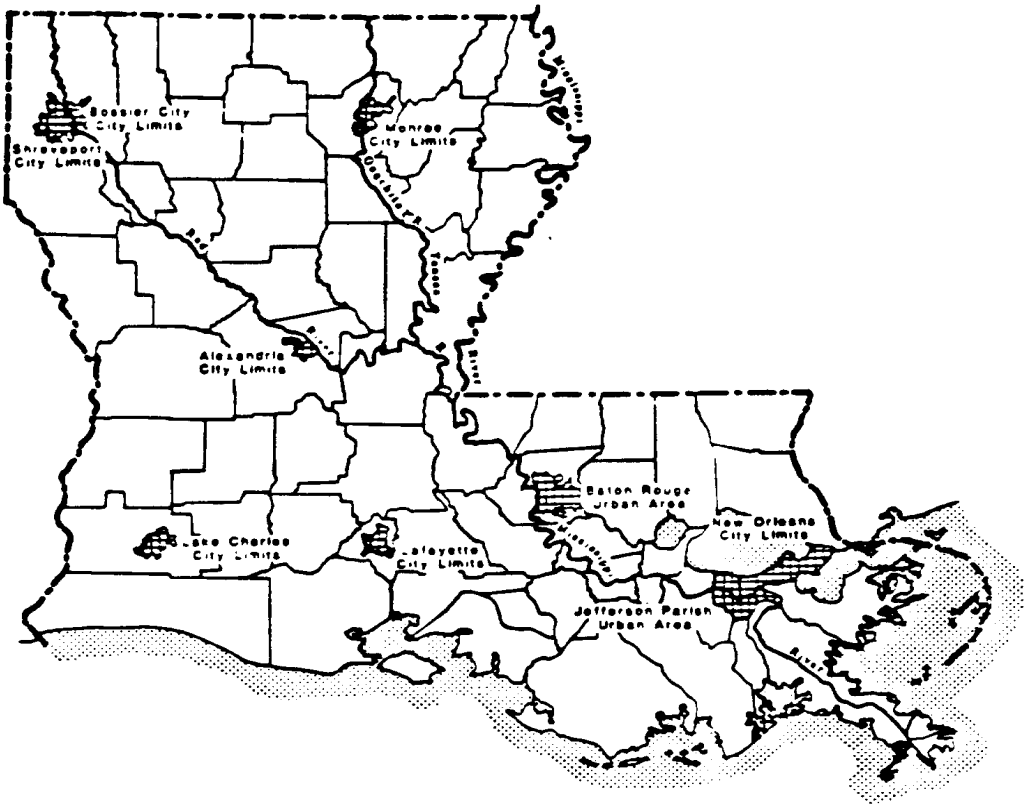


Figure 1. Statewide Flood Control Program
Nine Urban Areas Funding Group

b. Projects recommended to the Joint Legislative Committee will include a mix of those occurring in rural-undeveloped and rural-developed areas within each funding district as well as those for the urban areas of the state. The method for allocating funding percentages within each district and the method for allocating total program funds to the various districts are presented in §1307, Evaluation of Proposed Projects and Distribution of Funds.

5. Public Hearings (February-March). As part of the application evaluation process, the Joint Legislative Committee will hold public hearings in locations convenient to each funding district. The purpose of the hearings will be to receive comments from the public on the preliminary recommendations of the Evaluation Committee. After the hearings, the Evaluation Committee will incorporate public comments into its evaluation, complete the project evaluations, and submit a priority ordered list of projects to the Joint Legislative Committee.

6. Legislative Process (March-Regular Session). From the list of projects recommended by the Evaluation Committee, the Joint Legislative Committee will recommend to the legislature a construction program to be funded during the regular session. Projects recommended by the Evaluation Committee but not funded will remain active and will automatically be included in the recommended projects for the next year and receive additional points in the evaluation scoring procedure. Applications for projects that are not recommended will be returned to the sponsoring authorities with reasons for rejection.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:561 (May 1985).

Subchapter B. Pre-Application

§303. Instructions for Preparing Pre-Application

A. General Information. The pre-application is designed to serve as a mechanism to determine if the flood problem area and potential solutions are eligible for assistance under the Statewide Flood Control Program. It is also used for screening requests for OPW assistance in preparation of the full application. It is anticipated that requests for funding under the Statewide Flood Control Program will exceed the funds available. Requests for OPW assistance in preparing applications are also expected to exceed manpower capabilities. It is imperative, therefore, that all pre-applications be as complete as possible to ensure that the merits of all proposed solutions or the need thereof are adequately portrayed. If the information asked for in a particular line item is not available, or not applicable, the applicant must indicate this. Under no circumstances should any question or portion of the pre-application be left blank. Applicants should keep in mind that the more information they provide, the more accurately their pre-application can be evaluated. In addition, applicants are urged to submit pre-applications as early as possible so that time constraints do not hamper adequate review.

1. Information Sources. Sources of information necessary for completion of the pre-application are included in §305, "Instructions for Preparing Attachments."

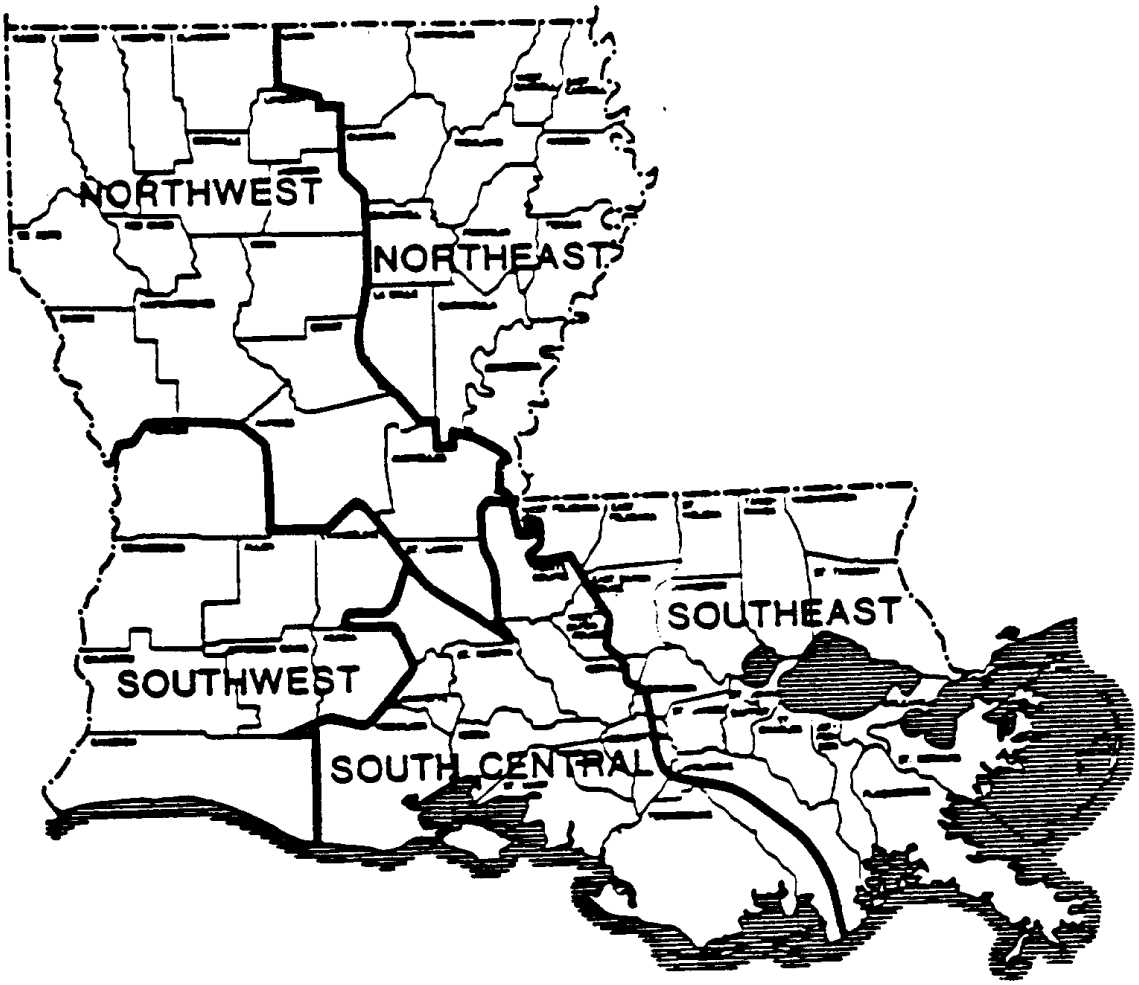


Figure 2. Statewide Flood Control Program
Five Funding Districts for Rural Projects

2. Pre-Application Preparation

a. Sponsoring authorities whose jurisdiction includes a population of 50,000 or more must complete the pre-application form fully and provide all of the information requested.

b. Sponsoring authorities whose jurisdiction includes a population of less than 50,000 are encouraged to complete the pre-application form to the maximum extent possible; OPW will assist in completing the form, if requested, and to the extent manpower is available.

3. Pre-Application Review Process

a. All completed pre-applications will be reviewed by the Flood Control Project Evaluation Committee (Office of Public Works, Louisiana Geological Survey, Louisiana State Planning Office). Applicants will be notified of the status of their pre-applications before June 1.

b. Applicants whose pre-applications are recommended for further consideration must then complete a detailed application for project funding. Pre-applications will be kept on file until a formal application is submitted or for a period of up to four years.

B. Line Item Instructions

1. The information requested in the following instructions must be provided by the applicant. Detailed engineering design data is not required at this time. Typical sources of information are indicated in the line item instructions, as well as in the instructions for preparing Attachment 2.

2. In the top right corner of the pre-application form indicate the parish in which the proposed project will be implemented. If the proposed project crosses parish boundaries, identify each parish. Provide a project name that will be used for all future reference to the project. The name should have some identifying characteristic of the flood problem area location (i.e., river, stream, etc. as shown on the flood boundary map).

3. Only an officer of the sponsoring authority, duly authorized to act on behalf of the sponsoring authority, may sign the pre-application form.

a. Name of Sponsoring Authority. Provide the full name and address of the sponsoring authority submitting the pre-application, and the name, title, and telephone number of the authorized representative of the sponsoring authority to whom all questions regarding the pre-application can be addressed. In the case of multiple sponsorship designate a lead sponsor to serve as the contact between the state and sponsoring authorities. Although not a requirement, multiple sponsorship of projects, particularly where upstream and downstream authorities join in a unified effort to combat flooding, are encouraged and will receive additional scoring in the evaluation process at the application stage.

b. Completion Date of Pre-Application. Indicate the date of completion of the pre-application.

c. Problem Area Location. Provide a brief narrative description of the geographic area of the flooding problem. Include name(s) of parish(s), in the case of rural areas the nearest town(s), and in the case of urban areas street names, subdivisions or other points of reference that will assist in identifying the area.

d. Names and District Numbers of Legislative Delegation. List the names and respective district numbers for each of the legislative delegates within the geographic boundaries of the flooded area. Applicants are encouraged to make their legislative delegation aware of their flooding problems and participation in the Louisiana Statewide Flood Control Program by obtaining letters of support from respective delegations. Additional scoring will be awarded for legislative support during evaluation of the pre-application and the final application.

e. Requesting OPW Assistance. If the sponsoring authority has a population of less than 50,000 and is requesting assistance in completing the application indicate this request by marking the "yes" blank provided on the pre-application form.

f. Description of Flood Damages

i. Describe each flood occurrence by providing the following data:

(a). approximate date of the flood occurrence(s);

(b). estimated number of acres flooded;

(c). duration of the flooding in approximate number of days;

(d). estimated number of buildings (residences, commercial, etc.) damaged by flooding;

ii. in addition, the sponsoring authority may wish to describe the flooding problem further in the space allotted in the "remarks" section.

g. Describe Potential Solution. Provide general descriptive information on the proposed solution for the flood problem being addressed if such a solution has been developed at this time.

h. Land Use Description. Describe in general terms the existing land use in the area experiencing flood damages. Indicate the characteristics of the area with respect to land use features such as residential, commercial, industrial, agricultural, forested, public, or other. Also indicate the percentage of land use in each classification.

i. Land Ownership. Describe the land ownership characteristics of the flood problem area. Indicate the approximate number of land owners in the flood problem area and the approximate size of the typical land parcel or lot. List the names of the owners of large land tracts and public lands in the flood problem area.

j. Other Funding. If funding for a project to solve this flooding problem has been sought from another source(s), indicate the other source(s) and the status of the application(s).

k. Part of Approved Project. If a project for the flood problem area has been developed and is a component of a larger project, such as a master drainage plan, explain the necessity or benefits of the component which this pre-application addresses.

l. Anticipated Costs. If preliminary engineering investigations have been developed and estimated costs are available, indicate this estimated cost range, excluding contingencies.

m. Design. If available, provide copies of any previous studies, design or preliminary design information on the proposed solution that are available in order to facilitate review by the Evaluation Committee.

n. Previous Measures

i. For any previous flood control measures in the flood problem area, the applicant must:

(a). indicate the project name;

(b). identify the date of completion;

(c). identify the supervising authority;

(d). give a brief description of the available information.

ii. Potential sources of information include:

(a). Louisiana Geological Survey's *Louisiana Atlas of Floodplain and Flooding Problems* (hereinafter referred to as the Flood Atlas);

(b). local government;

(c). drainage and levee districts;

(d). the Office of Public Works and the Office of Highways of the Department of Transportation and Development;

(e). U.S. Army Corps of Engineers;

(f). U.S. Department of Agriculture, Soil Conservation Service.

o. Previous Studies. If the flood problem being addressed has been studied before, list each study by name, date of completion, and indicate who conducted the study, regardless of whether action was taken as a result of the study. Copies of the studies should be provided, if available. Studies that have been conducted by federal, state, parish, or municipal agencies may contain valuable information that can facilitate the review of the pre-application.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:562 (May 1985).

§305. Instructions for Preparing Attachments

A. Flood Area Location Map (Attachment 1). This map will appear as Attachment 1 to the prepared pre-application and should clearly identify the geographic boundaries of the flood problem area, indicate communities upstream and downstream, and show location of roadways, railways, major utilities and building locations, and major drainage features. Update changes in land use, such as areas of cleared or developed land and other features. Typical scales may range from 1 inch = 1 mile to 1 inch = 10 miles, depending on the size of the problem area. Maps useful for this purpose include USGS topographic maps (scale 1:62,500 series or scale 1:24,000 series), parish maps, and maps from the Flood Atlas.

B. Documentation of Existing Flooding Problems (Attachment 2). Potential sources of information necessary for documenting the flooding problems, which will appear as Attachment 2 to the prepared pre-application, include:

1. local newspaper accounts;

2. parish engineer's records;

3. U.S. Geological Survey (USGS) stage and discharge reports;

4. the Flood Atlas;

5. stage and discharge reports of the U.S. Army Corps of Engineers;

6. unpublished gage records of the Louisiana Office of Public Works;

7. federal emergency management agency insurance claims data;

8. photographs;

9. signed statements of damages incurred (letters, personal interviews, etc.)

C. Resolution (Attachment 3)

1. The resolution by the sponsoring authority, or in the case of multiple sponsorship a resolution from each participating sponsor, shall contain:

a. the authority's request for funding consideration under the Statewide Flood Control Program; and

b. a statement that the authority will execute an agreement of local cooperation with the state that will include the local obligations set out in R.S. 38:90.9 and 38:90.12 including:

i. all new lands, easements, right-of-way, and spoil disposal areas necessary to construct and maintain the project;

ii. all maintenance and operation costs for the project and all future alterations as may be required;

iii. all necessary utility and any other facility relocations, alterations, and maintenance; and

iv. at least a 30 percent local match for construction of the project which is subject to adjustments for eligible credits.

2. In the case of multiple sponsorship, a copy or description of the agreement to be entered into between the participating authorities acknowledging the responsibilities of each should be attached to the resolution.

D. Checklist (Attachment 4). A checklist of all items of information required by the pre-application may be obtained from OPW. This checklist should be referred to prior to submitting the pre-application, and all items appearing on the checklist must have been addressed in the pre-application. All attachments, including the checklist, must accompany the pre-application.

E. Other Attachments (Attachments 5, 6, etc.). The applicant should include any other information necessary to aid the Evaluation Committee in evaluating the pre-application as Attachments 5, 6, etc. as appropriate.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:90 et seq.
HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:564 (May 1985).

Subchapter C. Application

§307. Application

A. This Section presents the application format and instructions for preparing an application for funding assistance through the Louisiana Statewide Flood Control Program.

1. Sponsoring authorities with a population of less than 50,000 may obtain assistance from the Office of Public Works in preparing their applications. Such assistance is requested when the pre-application is submitted. Assistance will be provided as time and manpower limitations permit, based on the review of the pre-applications by the Flood Control Project Evaluation Committee.

2. The application shall consist of a document with a structured format, as indicated in the outline and instructions that follow. In order to be considered for funding assistance in the upcoming fiscal year, the completed application must be received by OPW no later than 4 p.m. on November 1.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.
HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:565 (May 1985).

§309. Format for Application

A. Title page:
1. Parish;
2. Project name;
3. Title;
4. Name of sponsoring authority;
5. Date of application;

B. Project Summary:
1. Name/Address of sponsoring authority;
2. Authorized representative;
3. Previous correspondence;
4. Project description:
   a. Project location;
   b. Design frequency;
   c. Construction cost;
   d. Flood damage reduction;
   e. Narrative description of project;
   f. Structural density of benefitted area;
5. Commenting agencies;
6. Legislative delegation;

C. Design standards checklist;

D. Application narrative:
1. Benefitted area description:
   a. Area;
   b. Population;
   c. Land use;
   d. Land ownership;
   e. Soils and vegetation;
2. Description and flood problem:
   a. Relationship to major flood plains;
   b. History of flooding;
   c. Flood damage;
   d. Threat to human lives;
   e. Immediate need for project;
3. Alternatives considered;
4. Technical feasibility:
   a. Certification by a professional engineer;
   b. Project plans and design;
   c. Estimated construction cost;
   d. Other costs;
   e. Conjunctive use;
   f. Compatibility;
   g. Affected area;
   h. Protection and floodplain encroachment;
5. Project benefits:
   a. Determination of benefits;
   b. Inventory of properties within benefitted area:
      i. Residential, commercial, and public structures;
      ii. Roads;
      iii. Agricultural lands;
      iv. Industrial damages;

c. Damage value of calculations;

d. Prevention of loss of life;

e. Other tangible and intangible benefits;

6. Environmental considerations;

7. Summary of and response to local, state and federal agency comments;

8. Required permits for project implementation;

9. Assurances;

10. Local matching funds;

E. Attachments:

1. Land use map;

2. Flood boundary map;

3. Project impact map;

4. Drainage area map;

5. Runoff calculations;

6. Project plan;

7. Profile or stages, before and after project;

8. Cross sections;

9. Hydraulic calculations, before and after project;

10. Agency commenting letters;

11. Permits, if obtained;

12. Other letters of support or objection to the project;

13. Other attachments.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:565 (May 1985).

§311. General Instructions for Completing Application

A. The application must be prepared according to the application format, §309. Each item must be addressed.

1. Title Page. The first page of the application must contain the following:

a. Parish. Place the name of the Parish(s) in which the project will be implemented in the upper right hand corner of the title page.

b. Project Name. Provide a project name consistent with the name used in the pre-application.

c. Title. The title of the application should read "Application to Statewide Flood Control Program."

d. Name of Sponsoring Authority. Provide the full name of the sponsoring authority(ies) for the requested flood control funding assistance.

e. Date of Application. Provide the month and year in which the application is submitted.

2. Project Summary. The following pertinent project information must be summarized.

a. Name and Address of Sponsoring Authority. Provide the full name and mailing address of the sponsoring authority(ies) for the requested flood control funding assistance.

b. Authorized Representative. Provide the name, title, and telephone number of the authorized representative. In the case of multiple sponsorship, give the authorized representative of the lead sponsor. Any changes from the information provided in the pre-application should be noted.

c. Previous Correspondence. Reference all previous correspondence by indicating the completion dates of the pre-application and the resolution.

d. Project Description. Provide a narrative description of the project being proposed sufficient to enable the Evaluation Committee to understand the project's purpose, design, and major components:

i. project location;

ii. design frequency;

iii. estimated construction cost (excluding contingencies);

iv. flood damage reduction (i.e., number of acres, number of structures, dollar value);

v. narrative description of the project (including components and their general locations);

vi. structural density of the benefitted area (buildings per square mile) and the acreage usage (i.e., agricultural, forest, low density housing). This information should be in agreement with the information provided in §311.A, entitled "Project Benefits."

e. Commenting Agencies. List those agencies shown in §309.D.7, Summary of and Response to Local, State, and Federal Comments, whose comments have been received regarding the proposed project. Copies of agency comments should be included as Attachment 10.

f. Legislative Delegation. List the names and respective district numbers of all senators and representatives within the geographic boundaries of the flood problem area. Points will be given for legislative support during evaluation of the application.

3. Design Standards Checklist. Information relative to the design standards of efforts to reduce flooding is critical to the adequate review of applications. Make certain that all appropriate items for the program or project design described in the application are provided by completing the applicable section(s) of the following checklist. Indicate the page number of the application in which the requested information is presented. Applications for projects requiring a combination of alternatives such as channelization and a pumping station must furnish the required information for both. These design requirements are more fully explained in §313. A copy of the following checklist must accompany the completed application.

Page Number

a. Non-structural alternatives
  i. Acquisition and relocation
    (a). Design frequency of protection _____
    (b). Maps designating areas of acquisition and relocation _____
    (c). Description of existing and proposed land use _____
  ii. Flood proofing
    (a). Design frequency of protection _____
    (b). Description of flood proofing techniques proposed _____
    (c). Affected structures depicted on map _____
    (d). Effect on flooding of other areas described _____
  iii. Flood warning system
    (a). Criteria for operation described _____
    (b). Estimate of population served _____
    (c). Methods and procedures to be used _____
b. Structural alternatives _____
  i. Channel clearing, snagging, alteration or modifications
    (a). Design frequency, runoff calculations, and hydrologic method used _____
    (b). Drainage area map _____
    (c). Drainage summery sheet(s) _____
    (d). Stream profile sheet(s) with water surface profiles before and after project _____
    (e). Surveyed cross sections of significant structures crossing channel _____
    (f). Surveyed cross sections upstream and downstream of structures _____
    (g). Supporting information for starting water surface elevation _____
    (h). Hydraulic computation for all water surface profile(s) for both before and after project _____
    (i). Effect of project on downstream, upstream, and adjacent areas _____
  ii. Lakes/reservoirs and other impoundments
    (a). Design frequency, runoff calculations and hydrologic methods used _____
    (b). Drainage area map and project plan _____
    (c). Preliminary design plans for major components _____
    (d). Hydraulic and hydrologic analyses _____
    (e). Preliminary geotechnical information _____
    (f). Hydrologic analyses used to determine downstream effects from a catastrophic failure _____
    (g). Effect of the project on other areas _____
  iii. Levees, dikes, floodwalls, and related structures
    (a). Design frequency, hydrologic and hydraulic calculations and methods used to justify Freeboards _____
    (b). Preliminary project plan _____
    (c). Preliminary geotechnical information _____
  iv. Pumping stations
    (a). Design frequency, duration, hydrologic and hydraulic calculations for pumpage requirements _____
    (b). Drainage area map depicting components in affected area _____
    (c). State-area and stage-volume curves for sump or storage area _____
    (d). Sump or storage area depicted on map _____
    (e). Effect of project on other areas _____
  v. Storm water detention and retention measures
    (a). Design frequency, hydrologic calculations and methods used for flood volumes _____
    (b). Project plan showing proposed improvements _____
    (c). Effect on flooding in adjacent areas _____

4. Application Narrative. This portion of the application must contain a narrative description of the proposed project.

a. Benefitted Area Description. Describe in detail the area that would be afforded protection by the project, as indicated on the Flood Boundary Map (§309.E.2). Be as specific as possible in addressing the following.

i. Area. A narrative description of the geographic location of the benefitted area is required.

ii. Population. Estimate the number of persons within the benefitted area and indicate the source of the population estimate (for example: field survey, Corps of Engineers, etc.) and the date such estimate was made.

iii. Land Use. Describe land use within the benefitted area for the following categories:

(a). residential;

(b). commercial;

(c). industrial;

(d). agricultural;

(e). forested;

(f). public; and

(g). other.

iv. Land Ownership. Describe the land ownership characteristics by indicating the number of landowners in the benefited area that would be affected, and the size of the typical land parcel or lot. List the owners of large land tracts (representing 10 percent or more of the benefited area). Also list public lands within the benefited area.

v. Soils and Vegetation. Describe the soils and vegetation of the benefited area. A description and map of soil associations and soil series may be obtained from the U.S. Soil Conservation Service. Information on types of vegetation should be general (e.g., hardwood swamp, mixed forest, pine, etc.) and can be obtained from published reports of the Soil Conservation Service and Corps of Engineers, or from field observation. Cite source and date of information used.

b. Description of Flood Problem. Describe the flood problem in the area to be benefited in sufficient detail for the Evaluation Committee to weigh the urgency of this project against that of competing projects.

i. Relationship to Major Floodplains. Describe the hydrologic relationship of the benefited area to the 100-year floodplain, other major floodplains, streams, and floodplain areas: That is, describe the relationship of the flooded area to other hydrologic features that may contribute to the current flood problem or which may be affected by the project. Identify the first major discharge point, or out-fall, with the project in place. The Louisiana Geological Survey's Louisiana Atlas of Floodplains and Flooding Problems (hereinafter referred to as the Flood Atlas) is one possible source of this information.

ii. History of Flooding. Based on the records available and consistent with the information provided in the pre-application, describe in detail the history of flood problems in the benefited area. Use all available information to describe and document the number of occurrences,

location, date, duration and water elevations associated with previous floods. Explain cause(s) of flooding (i.e., backwater, inadequate outlet, etc.).

iii. Flood Damage. Provide and document from published and unpublished sources the magnitude, in terms of dollar amounts, of historical flood damage to land and improvements in the general location of the benefited area. Flood insurance and crop insurance claims should be used, if available. FEMA information on flood damage insurance claims paid by census city block numbers should be provided.

iv. Threat to Human Lives. If the current flood problem poses a threat to human lives, explain how and indicate the probability of loss. Indicate whether human lives have been lost as a result of previous floods, and the source of the information.

v. Immediate Need for Project. Provide any other pertinent information not previously requested that will help explain the magnitude of the flood problem or the immediate need for the project.

c. Alternatives Considered for Proposed Project. Floodplain management alternative fall into two categories: structural and nonstructural. A project may be composed of both structural and nonstructural components. A list of the techniques that comprise each category is presented below. For more information, consult the Floodplain Management Plan, State of Louisiana, issued in December 1982 by the Office of Planning and Technical Assistance, Department of Urban and Community Affairs. Two or more alternatives to address the flooding problem should be developed and described in this Section. It is desirable that a sufficient number of alternatives be developed to ensure that the project was selected on the basis of an objective analysis. At least one nonstructural alternative should be considered. Explain why the proposed project was chosen over other alternatives considered.

i. Structural. Structural flood control alternatives include public works projects, storm water detention and storm water retention techniques.

(a). Public Works include pump stations, clearing and snagging, channel alterations, channel paving, levees, stream diversions, and dams, weirs and reservoirs. If channel paving is to be considered, the need (e.g., lack of right-of-way, soil instability, etc.) must be justified.

(b). Storm water detention techniques are those that slow runoff and increase infiltration, such as revegetation, grading and terracing practices, use of porous pavements in parking lots, and perforated subsurface drainage pipes.

(c). Storm water retention techniques are those that retain runoff, such as the construction of small ponds, impoundments, and cisterns.

ii. Nonstructural. Nonstructural flood control alternatives include the formulation of regulations, flood proofing, flood warning systems, and acquisition of property.

(a). Regulations include floodplain regulations zoning, subdivision regulations, and building, housing and sanitary codes, and detention ordinances. Note, that generally the implementation of regulations will not be eligible for funding, however, they may be an integral part of a solution to a flood problem.

(b). Flood proofing includes elevation of structures, small walls and levees, and modifications to structures. Useful information on flood proofing techniques can be obtained from the LSU Agricultural Cooperative Extension Service.

(c). Acquisition of property entails purchase of floodplain areas and relocation of houses, and other structures.

d. Technical Feasibility. For the flood control measure proposed by this application, address the following items:

i. Certification by Professional Engineer. Submit certification by a professional engineer registered in the State of Louisiana that the cost estimates, preliminary plans and designs and other engineering information included in this application conform to accepted engineering practice and the project shall meet the stated design frequency. State the frequency being addressed (see §313.C, Design Standards). Any significant deviation from the minimum design frequency as presented in §313.C, must be justified.

ii. Project Plans and Designs. Include a discussion of all preliminary plans and design information describing the project and support the design rationale. The Flood Control Project Evaluation Committee must be able to clearly distinguish each component of the project and recognize the rationale used in developing the plans and designs. This should include a brief description of the methodology used in developing the project. Since various types of projects will have different design components, lists are provided in Design Standards, §313.C, for applicants to follow. Address the measure or measures specifically involved in this project. Items required by the Design Standards must be included as attachments. To determine project benefits, it is essential to provide engineering information for with and without project conditions.

iii. Estimated Construction Costs. Estimate the costs of the project, excluding contingencies and those items detailed in "Other Costs" below. The estimate should break out the costs of materials and construction activities to at least the level of detail necessary to verify the estimate. For each project component, provide the name, quantity, unit cost, and item cost. Avoid the use of lump sum costs. Costs should be current at the time of the application.

NOTE: All cost estimates need only be based on preliminary plans and designs.

iv. Other Costs. Estimate the costs of the project that are the sole responsibility of the sponsoring authority under the State-wide Flood Control Program, including: acquisition of new lands, easements, rights-of-way, spoil disposal areas, utility and other facility relocations,

alterations and maintenance costs. Sponsoring authorities undertaking the preparation of plans and specifications and the letting of bids for construction and supervision of construction should also include these costs in the cost estimate.

NOTE: All cost estimates need only be based on preliminary plans and designs.

v. Conjunctive Use. Describe the feasibility of including water retention and distribution features in the project for agricultural irrigation development, recreation, wildlife habitat or other conjunctive uses.

vi. Compatibility. Describe the efforts made to ensure compatibility of the project with other federal, state, and local projects within the drainage basin. Future plans and design requirements of the Office of Public Works, Office of Highways, Soil Conservation Service, Corps of Engineers, levee boards and local agencies must be considered. The requirements of the Office of Highways must be met or exceeded at all roadways under the jurisdiction of the state. Thorough consideration must be given to upstream and downstream effects.

vii. Affected Area. Describe that area(s) outside of the benefited area upstream and downstream, which includes the project construction site if outside of the benefited area, that may be affected either beneficially or adversely by implementation of the project. The boundaries of the affected area should be distinguished from the benefited area on the Flood Boundary Map. The following items should be addressed:

(a). geographic area;

(b). population estimate (cite source and date of estimate);

(c). land use (see §311.A.4.a.iii for categories).

viii. Protection and Floodplain Encroachment. The project must be designed to protect existing development without encouraging additional urban and agricultural development. Describe the extent to which the proposed project will protect existing development without encouraging additional development in a flood prone area.

e. Project Benefits. The assessment of benefits, both tangible and intangible, is one of the key factors in approval of proposed projects. The major benefit of any flood control project is the reduction of damage to existing property and buildings subject to flooding. The benefits' analysis procedure described below must be used in completing the application. Applications that do not follow this procedure cannot be compared to other applications objectively and may jeopardize the application review.

i. Determination of Benefits. In general the benefits are to be calculated based on an actual field inventory of the structures within the benefited area as determined from the flood boundary map from the design storm and using the appropriate unit damage values. It is not necessary to determine the floor elevation of each structure. If a structure is located within the benefited area, it may be counted. In densely populated urban areas a field investigation of the entire benefited area may not be feasible. In this case aerial photos and field investigations of sample areas may be used. The applicant must explain the procedure used in determining the buildings, property or acreage protected by the project.

ii. Inventory of Properties within Benefited Area. Based on the design flood, include an inventory of the properties that will be protected as a result of the proposed project (i.e., those properties between the existing and anticipated flood boundary). For residential, commercial, and public structures, indicate total square feet. For roads, indicate lane miles. For agricultural lands, indicate the number of cleared acres. This information should be tabulated by subdivisions and other identifiable areas and delineated on the Flood Boundary Map. The recommended procedures for developing these data requirements are described below.

(a). Residential, Commercial and Public Structures. By visual inspection, estimate the total number of square feet for each building type for each sub-category by subdivision as listed in §313.B. For multistory buildings, only the square footage of the first floor is to be counted. This will require an estimate and tabulation of square footage for each structure. It is not necessary to compute damage value at this time, only the estimate of square footage by building type. Furnish aerial photos if available.

(b). Roads. By visual inspection and approximate measurement from a map, indicate the total number of miles for each category of road (gravel, two-lane, and four-lane) as provided in §313.B, Table 2. No field estimate of damage value is required since approximate damage value by mile for each category is provided in the unit damage value tables which follow.

(c). Agricultural Land. Consult with the parish cooperative extension agent or parish soil conservation service representative to determine the approximate acreage for each crop (including pasture). This could be based on a percentage breakdown by crop for the estimated total number of agricultural acres. Only acreage estimates are needed from the survey since average damage values for each crop are provided in §313.B, Table 3.

(d). Industrial Damages. Estimates of flood damage to industrial facilities must be based primarily on estimates by the representatives of the facility in question. No attempt should be made to estimate damage without the assistance of an industry representative. Damage must be estimated for inventory, equipment, and structures.

iii. Damage Value Calculations. Section 313.B, Tables 1-3 contain the unit damage values to be used in computing flood control benefits. From the data collected in the inventory of properties within the benefited area and the unit damage values provided in Tables 1-3, and from estimates of industrial damage, develop a tabulation of total potential damage prevented by the project. Separate tables with appropriate subdivisions are provided for residential, commercial, and public buildings; crops and pasture; and

roads. For industrial damage a different procedure is required as described in Subclause ii(d) above. After computing flood damage values by category, add the figures for all categories.

iv. Prevention of Loss of Life. Prevention of loss of life are those benefits that enhance public safety by maintaining or providing access to vital services to the community and any neighboring communities which rely on these services, such as emergency medical facilities, fire and police stations and protecting or creating evacuation routes.

v. Other Tangible and Intangible Benefits. Other benefits both tangible and intangible that have not been quantified to this point must be addressed to the extent possible. In the case of agricultural irrigation, benefits may be quantified in terms of cost savings under "with project" conditions. Among intangible benefits are environmental quality and aesthetic values. Although it is extremely difficult to estimate the monetary value of such benefits, they should be considered. Proper evaluation can be made by the Evaluation Committee only if the applicant has fully described these benefits. Such benefits may be useful for establishing priority among closely ranked projects. Provide documentation of the benefits identified.

f. Environmental Considerations

i. Provide an assessment of the environmental effects anticipated as a result of the proposed project during construction and upon completion of construction. A detailed environmental assessment is not required. Parameters that must be discussed include, but are not limited to:

(a). water quality;

(b). habitat modification;

(c). fish and wildlife resources (including threatened and endangered species);

(d). noise and air quality;

(e). cultural, historical, and archeological features;

(f).special geologic features.

ii. The description should indicate whether the effect(s) is short-term or long-term, direct or indirect, and adverse or beneficial. Applicants must seek comment from appropriate state agencies.

g. Summary of and Response to Local, State and Federal Comments

i. This Section must include a summary of those comments received from the appropriate agencies to identify potential environmental issues and other concerns and the sponsoring authority's response to those comments. Copies of pre-applications must be forwarded to these agencies by July 1 to provide sufficient time for review and commenting prior to the application deadline of November 1. Recommendations of these agencies must be addressed. Agencies to be contacted include:

(a). Department of Natural Resources;

(b). Department of Wildlife and Fisheries;

(c). Department of Culture, Recreation and Tourism, Division of Historic Preservation;

(d). Department of Urban and Community Affairs;

(e). Department of Transportation and Development, Office of Highways;

(f). State Soil and Water Conservation Committee;

(g). Department of Environmental Quality;

(h.) U.S. Army Corps of Engineers;

(i). U.S.D.A. Soil Conservation Service.

ii. Addresses for these agencies can be found in §313.E, Primary Contact Agencies.

h. Required Permits for Project Implementation. This Section provides a description of the federal, state, and local permits that may be required to implement the proposed project. Where appropriate, contact phone numbers are provided. The applicant is encouraged to coordinate with the regulatory agencies prior to submitting these permit applications and throughout the permitting process. Processing costs may be associated with certain permit applications. The agencies should be contacted for information concerning these costs and procedures or forms. Applicants do not have to have the permit at this time. Some permitting agencies require fees, and applicants may elect to withhold permit application pending notification of project funding. The Flood Atlas may be useful in permit preparation.

i. Federal

(a). Section 10 Permit. This permit procedure was authorized by Section 10 of the River and Harbor Act of 3 March 1899 (30 Stat. 1151; 33 USC 403). The permit is required for activities occurring in navigable waters of the United States. The regulatory agency is the U.S. Army Corps of Engineers. For areas under the New Orleans District jurisdiction, contact the Permit Section at (504) 838-2280. For areas under the Vicksburg District jurisdiction, contact the Permit Section at (601) 634-5289. A minimum 20-day public notice is required for all Section 10 permit applications. The entire permit application procedure usually requires 60 to 120 days.

(b). Section 404 Permit. This permit was authorized pursuant to Section 404 of the Clean Water Act (86 Stat. 816; 33 USC 1344) and is required for the disposal of dredged or fill material in wetlands, including water bodies. The U.S. Army Corps of Engineers is the regulatory agency. Since the definition of "wetlands" often needs interpretation, the Corps should be contacted to determine whether the proposed project area qualifies. Contact telephone numbers are listed in the preceding description. This application requires a 20-day public notice. Approximately 60 to 120 days are necessary to complete the entire application process.

(c). Right-of-Way Easement. This permit is required by the U.S. Department of the Interior for all activities affecting federal lands such as national forests and wildlife refuges. The permit application often contains a brief biological impact assessment of the proposed project. The application must be reviewed by the office in Washington, D.C., as well as by appropriate field and regional offices. Usually, 60 to 90 days are required for approval or denial. The area manager of the affected refuge, park, forest, etc. should be contacted for specific instructions and requirements.

(d). Bridge Permit. The U.S. Coast Guard regulates activities that require construction of new bridges or renovation of bridges over navigable waters. The U.S. Coast Guard in New Orleans should be contacted (504) 589-2965 to determine whether a bridge permit will be required. Processing normally requires 90 to 120 days.

ii. State

(a). Coastal Use Permit. The Coastal Management Division (CMD) (225-342-7591) of the Louisiana Department of Natural Resources oversees this permit which stipulates activities affecting the state's coastal waters and wetlands below five feet mean sea level (msl). This application is a copy of the Section 10/404 permit application; however, the CMS requires a 30-day public notice. Processing time for the coastal use permit is normally within 60 days.

(b). Water Quality Certification. The Louisiana Department of Environmental Quality, Water Pollution Control (WPC) Division (225-342-6363) requires a water quality certification for any activities that may affect the water quality of any of the state's streams, lakes, ponds, bays, or other water bottoms. The application is a letter addressed to the division director, requesting certification. The applicant will then receive from the WPC a public notice that will have to be published in the official journal of the State of Louisiana, Legal Section, for one day. The applicant is required to bear all publishing costs. Comments are accepted by the WPC for a period of 10 days after the public notice has appeared in the paper and applicants are notified soon after of approval or denial. The entire process is usually completed within 30 to 45 days. DEQ charges a fee for this certification and it is not necessary to apply until the project has been funded.

(c). Class B Use

(i). This permit is regulated by the Louisiana Department of Wildlife and Fisheries and is required for activities that may affect, directly or indirectly, streams included in the Louisiana Natural and Scenic Streams system. Those activities that are prohibited on scenic streams and are considered Class A uses include:

[a]. channelization;

[b]. clearing and snagging;

[c]. channel realignment;

[d]. reservoir construction.

(ii). The Class B use application consists of a brief environmental assessment that discusses the present conditions and anticipated impact of the proposed project on the following parameters:

[a]. wilderness qualities;

[b]. scenic values;

[c]. ecology;

[d]. recreation;

[e]. fishing;

[f]. wildlife;

[g]. archaeology;

[h]. geology;

[i]. botany;

[j]. water quality;

[k]. other natural and physical features and resources.

(iii). A 30-day public notice is required after the application has been accepted as complete by Wildlife and Fisheries and the application has been reviewed by cooperating state agencies. The contact telephone number is (225) 342-9273. The normal process time is 70 to 90 days.

(d). Letter of Comment or No Objection. This letter is required for activities that may affect state lands, water bottoms, or structures (e.g., roads, bridges, etc.). The applicant should address the request to the deputy chief engineer of the Louisiana Department of Transportation and Development, Office of Public Works. The request should also contain a copy of the Corps of Engineers permit applications(s) and the appropriate plats and maps. This process normally requires 15 to 30 days.

iii. Local

(a). Letter to Comment of No Objection. A letter of comment or no objection must be requested from: levee districts and boards if the proposed project may affect levees or water control projects within a given levee district; and parish police jury for any given parish which will be affected by the proposed project. It should be noted that if more than one levee district and board or parish may be affected, letters of comment or no objection must be requested from each governing body. The request should also contain a copy of the Corps of Engineers permit application(s) and appropriate plats and maps. The applicant is encouraged to check with the parish clerk for information concerning levee districts and boards as well as parish police juries.

(b). Other. Certain parishes have specific permits for activities occurring in these parishes. Appropriate parish authorities should be contacted for further information.

iv. Indicate which permits will be applicable to the proposed project.

_____ Section 10
_____ Section 404
_____ Right-of-Way
_____ Bridge
_____ Coastal use
_____ Water quality certification
_____ Scenic rivers
_____ Letters of no objection
_____ Levee districts
_____ Other (identify)

i. Assurances. In order to be certain that the sponsoring authority is fully aware of the level of its financial responsibilities, the following must be completed.

i. The following dollar estimates are based on preliminary plans and design information and are not intended to be exact representations but merely indications of the magnitude of the sponsoring authority's financial obligations. Do not include any contingency fees in these estimates.

(1) Estimated cost of furnishing all new lands, easements, rights-of-way, and spoil disposal areas necessary to construct and maintain the project $ _____

(2) Estimated annual cost of maintenance and operation of the project and all future alterations as may be required $ _____

(3) Estimated funds required to accomplish all necessary utility and any other facility relocation, alterations, and maintenance $ _____

(4) Estimated funds required to provide a 30 percent local match for project construction cost. (This amount may be reduced by eligible credits.) $ _____

(5) Engineering design and construction observation $ _____

TOTAL FIRST COST [Total Lines (1), (3), (4), and (5)] $ _____

TOTAL ANNUAL COST [Line (2)] $ _____

j. Estimate of Local Matching Share. In order to be eligible for state funding assistance, local sponsoring authorities, local sponsoring authorities are required to provide a 30 percent matching share of the total construction cost. If applicant anticipates expenses that will be eligible for credit, applicant may estimate these credits by the following procedure. It is an estimate that may affect the cash component of the matching share at some point in the future if the eligible costs are incurred. The 30 percent local match may be comprised of new right-of-way acquisition cost (not to exceed 80 percent of the matching share), engineering and design costs (not to exceed 10 percent of the matching share) and cash (up to 100 percent of the matching share). In order to receive any credit for right-of-way acquisition, the right-of-way must have been purchased within one year of the pre-application filing date. Engineering design must have been performed within one year of the pre-application filing date to be eligible as a credit toward local matching funds.

Local Matching Share

(1). Total Local Match Required (30 Percent of construction cost) $ _____

(2). Less Credits

(a). New Right-of-Way Acquisition Cost [Not to exceed 80 percent of total matching share (Line (1) above)] - $ _____

(b). Engineering and Design Cost [Not to exceed 10 percent of total matching share (Line (1) above)] - $ _____

(3). Equals Cash Required Prior to Implementation of the construction contract [Line (1) minus Lines (2)(a) and (2)(b)] = $ _____

_____ _____
Date Office of Sponsoring Authority

5. Attachments

a. Land Use Map. Provide as Attachment 1 a map which clearly depicts the major land use types in the benefited area as discussed in §311.A.4.a.iii. Use a scale of 1:24,000 or 1:62,500 if suitable.

b. Flood Boundary Map. Provide as Attachment 2, a flood boundary map consisting of topographic contours which show elevations of the area inundated by the design flood under existing conditions. This map should include all areas in which flooding will increase or decrease as a result of the project both within and outside the benefited area. Show both the EXISTING (without project) flood boundary and the ANTICIPATED (with project) flood boundary for the design flood.

c. Project Impact Map. Provide as Attachment 3 a project impact map. This map should clearly show the location of roadways, railways, major drainage feature, major utilities and building locations. (Usually, the most recent USGS topographic quadrangle map, scale 1:24,000 or scale 1:62,500, will provide a suitable base.)

i. Identify the location of the project and its major components (e.g., pumping station, levees, channelization); identify the boundaries of the flood problem within the area, as well as those areas 1/2 mile upstream, downstream, and adjacent to the benefited area.

d. Drainage Area Map. Provide as Attachment 4 a drainage area map and all pertinent information as specified for the appropriate structural alternative presented in §313.C, Design Standards.

e. Runoff Calculations. Provided as Attachment 5 runoff calculations and methodologies used for easy alternative considered as specified in §313.C, Design Standards.

f. Project Plan. Provide as Attachment 6 the preliminary project design plan for the appropriate alternative as specified in §313.C, Design Standards.

g. Profile or Stages before and after Project. Provided as Attachment 7 pertinent information on before and after stream profiles and stages for the appropriate alternatives as specified in §313.C, Design Standards.

h. Cross Sections. Provide as Attachment 8 pertinent information on stream cross sections as specified in §313.C, Design Standards.

i. Hydraulic Calculations, before and after Project. Provide as Attachment 9 in pertinent hydraulic calculations for both the BEFORE and AFTER project conditions as specified in §313.C, Design Standards.

j. Agency Commenting Letters. Include as Attachment 10 copies of letters of comment from those agencies whose comments were requested in §313.A.4.g.

k. Permits (If Obtained). Include as Attachment 11 copies of all permits that may have been obtained at this time.

l. Others Letters of Support of Objection to the Project. Include as Attachment 12 copies of any other letters of support or objection to the project.

m. Other Attachments. Include as Attachments 13, 14, etc., any other information necessary to aid the Evaluation Committee in evaluating the application.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:565 (May 1985).

§313. Pertinent Information for Completing Application

A. In the following sections pertinent information concerning:

1. damage valuations for computing project benefits;

2. design standards for project design;

3. information sources; and

4. primary contact agencies for completing the application are presented.

B. Damage Valuations. The following tables provide the unit damage values to be used in completing §311.A.4.e.iii of the application.

TABLE 1
UNIT DAMAGE VALUES FOR RESIDENTIAL, COMMERCIAL, AND PUBLIC STRUCTURES AND CONTENTS

Category	Damage Value per Square Foot
Residential	
Single Family Dwellings	
Metal	$ 8.10
Brick	12.79
Wood	11.86
Apartments	
Brick	12.09
Wood	11.20
Commercial	
Gas Station (gas only)	
Metal and Wood	21.90
Brick	25.61
Gas Station and Repair Shops	
Metal and Wood	14.82
Brick	18.53
Food and Drug Stores	
Metal and Wood	21.66
Brick	24.10
Department Stores	
Metal and Wood	23.82
Brick	26.22
Hardware Stores	
Metal and Wood	25.36
Brick	28.41
Barber Shops	
Metal and Wood	21.46
Brick	23.90
Laundromats and Cleaners	
Metal and Wood	14.75
Brick	15.25
Convenience Stores	
Metal and Wood	27.85
Brick	30.90
Fast Food Outlets	
Metal and Wood	43.57
Brick	49.06
Restaurants/Motels	
Metal and Wood	29.90
Brick	31.00
Retail and Specialty Shops	
Metal and Wood	34.11
Brick	37.16
Bars and Liquor Stores	
Metal and Wood	17.98
Brick	23.78
Recreational Facilities (bowling alleys, theaters, health clubs)	
Metal and Wood	20.94
Brick	23.00
Warehouses	
Metal and Wood	10.70
Brick	14.31
Offices	
Metal and Wood	42.55
Brick	49.26
Nondescript (Vacant Buildings)	
Metal and Wood	16.14
Brick	19.75
Public Buildings	
Public Schools	
Metal and Wood	9.21
Brick	11.86
Churches	
Metal and Wood	10.35
Brick	15.34
Libraries	
Metal and Wood	88.52
Brick	91.82
City Halls	
Metal and Wood	13.82
Brick	17.27
Hospitals/Clinics/Nursing Homes	
Metal and Wood	39.24
Brick	42.70
Fire Stations	
Metal and Wood	9.70
Brick	10.40
Post Offices	
Metal and Wood	18.86
Brick	20.29
Services Clubs (Elks, Fraternities)	
Metal and Wood	12.32
Brick	13.07
Offices (charities, labor organizations, unions)	
Metal and Wood	13.82
Brick	17.27
Other	
Metal and Wood	23.99
Brick	26.67

Sources: Economic Data Report for U.S. Army Corps of Engineers Lower Mississippi Valley Division's Flood Damage Estimation System, April 1981.

TABLE 2
UNIT DAMAGE VALUES FOR ROADS

Type of Road	Unit Damage Value/Mile
Gravel	$148
Two-Lane	354
Four-Lane	796

Sources: Economic Data for U.S. Army Corps of Engineers Lower Mississippi Valley Division's Flood Damage Estimation System, April 1981; New Orleans District, Corps of Engineers; the Federal Insurance Administration; and Gulf South Research Institute.

TABLE 3
UNIT DAMAGE VALUES FOR AGRICULTURAL LANDS, BY CROP*

Crop	Damage Value/Acre
Cotton	$ 143.56
Corn	57.10
Soybeans	60.60
Sugarcane	143.25
Wheat	34.40
Rice	115.03
Grain Sorghum	46.86
Pasture (cow/calf)	24.48

Sources: Development of Use Value Estimates for Agricultural, Horticulture and Marsh Lands, Louisiana Tax Commission, December 1982; Selected Enterprise Budgets Useful in Farm Planning (1977-1980), Louisiana State University Cooperative Extension Service; and Gulf South Research Institute.

*Figures are based on average prices for the years 1977 to 1980.

C. Design Standards

1. Maps, plans, profile, sheets and cross section sheets submitted with the application shall be consistent with accepted engineering practices. In order to facilitate review of the applications, use scales consistent with a multiple of 10 or those listed below:

1" = 1 ft.	or	1" = 1 mile
1" = 2 ft.		1" = 2 miles
1" = 4 ft.		1" = 4 miles
1" = 5 ft.		1" = 5 miles
1" = 10 ft.		1" = 10 miles
1" = 20 ft.		1" = 20 miles
etc.		etc.

2. Standard-sized sheets of 24" x 36" shall be used for cross section sheets, plans and profiles sheets. Maps shall conform to the scales listed above.

3. All maps, plans, profiles sheets, cross section sheets, and other exhibits shall include a standard title block that identifies the application, applicant, preparer, name of the exhibit and number of sheets, if applicable.

4. All elevations should reference mean sea level (National Geodetic Vertical Datum of 1929). The applicant is encouraged to make use of the available information.

a. Nonstructural Alternatives. The following information must be provided for non-structural projects.

i. Acquisition and Relocation

(a). Design frequency of protection;

(b). Maps designating areas of acquisition and relocation;

(c). Description and valuations of land and structures proposed to be acquired;

(d). Descriptions of existing and proposed land use.

ii. Flood Proofing

(a). Design frequency of protection;

(b). Description of flood proofing techniques to be employed;

(c). Maps designating locations of affected structures;

(d). Effect on flooding in upstream, downstream and adjacent areas;

iii. Flood Warning

(a). Criteria for operation of system;

(b). Estimate of the population served;

(c). Methods and procedures to be used.

b. Structural Alternatives. The following design frequencies should be used as minimum levels of protection for structural flood control alternatives. The design level of protection should be commensurate with the level of development. Any significant deviation must be justified. Compatibility with other federal, state, or local agency requirements must be met as discussed in Item 13.f of the application instructions.

Level of Development	Design Frequency (Years)
Underdeveloped	2
Developed	25

i. Channel Clearing, Snagging, Alterations or Modifications.

NOTE: For storm sewers, provide (a), (b), (c), (d), (g), (h), and (i).

(a). Indicate design frequency and hydrologic method used (typical methods include, but are not limited to: USGS Floods in Louisiana, Magnitude and Frequency, 1976; USDA Soil Conservation Service Technical Release Numbers 20 and 55; U.S. Army Corps of Engineers' HEC-1, the Rational Method).

(b). Provide a drainage area map on USGS topographic maps or the best available topography and project plan with stream profile stationing, cross section locations, and orientation, proposed soil disposal areas and other construction activities unidentified.

(c). Provide drainage summary sheet(s) consisting of stream station locations, cumulative drainage areas to each design locus, design discharge (provide both "without project," if different); indicate locations of tributary streams; cross reference stream identifications and stationing with project plan.

(d). Provide stream profile sheet(s) including existing and proposed channel grades, low bank profiles, existing and proposed bridges, culverts and other structures, proposed channel dimensions (bottom width and side

slopes), location of tributaries, existing and proposed water surface profiles for the design flood, stream stationing consistent with the stationing on the project plan and surveyed cross section locations identified.

(e). Provide surveyed cross sections of all significant structures crossing the channel, showing all dimensions of the channel and structure including shape and position of conveyance openings; the size, shape and placement of bridge piles, wing walls, and handrails; the crest of the adjacent roadway; the decks and low beams of bridges; materials of construction; and other features necessary to adequately define the hydraulic characteristics of the structure and adjacent roadway. It is suggested that available information be used wherever possible.

(f). Provide surveyed cross sections along the stream and upstream and downstream of the structures at frequent enough intervals to identify transitions in the size and shape of the channel and overbank areas.

(g). Provide supporting information to justify the starting water surface elevation used in the hydraulic computation for each water surface profile presented.

(h). Provide hydraulic computations, including runoff calculations, to justify all of the water surface profile(s) shown on the stream profile sheet(s); furnish complete input and output listings of all computer programs used. If hand calculations are presented, provide in tabular fashion for each reach of the stream: stationing, slope, depth, cross sectional area, hydraulic radius, and velocity and flow of the channel and each of the overbank areas; and for all structures, calculations of the flow through, over and around the structures and the basis of the calculations, (formulas, monographs, etc.) and references of the methods employed (Manning's Equation, HEC-2, HDS Number 1, etc.).

(i). Evaluate the effect of the proposed project on flooding downstream, upstream and in adjacent areas.

ii. Lakes, Reservoirs, and Other Impoundments

(a). Indicate design frequency and hydrologic methods used and their sources (Corps of Engineers, SCS, OPW, or USGS etc.)

(b). Provide a drainage area map and project plan identifying all existing and proposed embankments, spillways, outlet chutes, and other components of the dam reservoir.

(c). Provide preliminary design plans for major components, identifying proposed dimensions, materials, slopes, grades, seepage prevention methods, erosion control measures, and power generation facilities, if any.

(d). Provide hydraulic and hydrologic analyses, including runoff calculations, flood routing and water surface profile calculations for the design flood, for "with project" and "without project" conditions.

(e). Provide preliminary geotechnical information, including soil borings to verify the suitability of proposed construction methods.

(f). Provide hydrologic analyses to determine the downstream flooding effects from a catastrophic failure of the dam during a flood of extreme magnitude. The flood volume should be related to the probable maximum flood and based on the hazard category of the proposed dam in accordance with the Dam Safety Program of the Office of Public Works.

(g). Evaluate the effect of the project on flooding upstream, downstream, and in adjacent areas.

iii. Levees, Dikes, Floodwall, and Related Structures

(a). Provide design frequency, hydrologic and hydraulic calculation, methods used to evaluate the flood levels and wave heights, and justify the free board levels used.

(b). Provide preliminary project plan showing proposed improvements, existing and proposed grades and slopes and the relationship of the proposed improvements to other flood control works in the vicinity.

(c). Provide preliminary geotechnical information, including logs of soil borings, to determine the suitability of the proposed construction methods.

iv. Pumping Stations

(a). Provide the design frequency, duration, hydrologic and hydraulic calculations used to estimate pumpage requirements.

(b). Provide drainage area map and project plan identifying all existing and proposed embankments, outlets, and other components.

(c). Provide stage-area and stage-volume curves for the sump or storage areas utilized.

(d). Provide topographic maps showing the sump or storage areas.

(e). Evaluate the effect of the project on upstream, downstream, and adjacent areas.

v. Storm Water Detention and Retention Measures

(a). Provide design frequency, hydrologic calculations, documentation of methods used to evaluate the modification of flood volumes, and drainage area maps as appropriate.

(b). Provide project plan showing proposed improvements.

(c). Provide a quantitative evaluation of the effect on flooding in adjacent areas.

D. Information Sources

1. Information that might prove useful in completing the preapplication form is available from a number of sources, including the records of parish engineers, newspaper accounts, published and unpublished water resources reports, and date collected by federal, state and

local agencies. Selected references are listed and described below. Many of these references are available for inspection at one or more of the agencies listed in, §16305.D.5, Primary Contact Agencies.

2. Louisiana Geological Survey, 1983, *Louisiana Atlas of Flood-plains and Flooding Problems*: Louisiana Department of Natural Resources, Baton Rouge, Louisiana.

a. An atlas of 96 maps depicting the following information for each of the state's 15 major river basins:

i. geologic floodplains;

ii. flood prone soils;

iii. existing and proposed flood control projects

iv. areas benefited by existing and proposed Soil Conservation Service PL-566 projects;

v. flood insurance claims and polices;

vi. flood problem areas;

vii. land use and land cover;

viii. hydrologic boundaries;

ix. 100-year floodplain;

x. miscellaneous maps including scenic streams, federal and state lands, major waterfowl habitat, and others.

3. Neely, B.L., U.S. Geological Survey, 1976, *Floods in Louisiana. Magnitude and Frequency*, 3rd edition; Louisiana Department of Highways (now the Louisiana Department of Transportation and Development, Office of Highways), Baton Rouge, Louisiana. [Presents data on annual peak floods for all published gaging records in Louisiana (through 1974) and describes techniques for estimating magnitude and frequency of peak discharges on streams in Louisiana.]

4. U.S. Geological Survey, Water Resources Division, 1982, *Water Resources Data Louisiana, Water Year 1981*, 3 vol.; Baton Rouge, Louisiana. (One of annual series by USGS. The presented date represents the part of National Water Data System operated by the USGS and cooperating state and federal agencies in Louisiana. Included are state records of streams, lakes and reservoirs; discharge records at stream-gaging stations; water levels in observation wells; water quality records in streams, lakes, reservoirs, and observations wells; and additional miscellaneous information.)

5. U.S. Army Corps of Engineers, 1977, *Stages and Discharges of the Mississippi River and Its Tributaries, 1977*, New Orleans District, Vicksburg District. (One of annual series published by Corps of Engineers district office, indicating stage and discharge for the designated river basins.)

6. Federal Emergency Management Agency (or, prior to 1979, U.S. Department of Housing and Urban Development, Federal Insurance Administration), various dates, flood insurance studies, various communities. Department of Urban and Community Affairs in Baton Rouge is a repository for this information. (A series of studies mapping flooding boundaries, floodways, and flood zones to be used for insurance purposes, based on application of detailed and approximate methods of analysis. They supersede earlier or less detailed investigation conducted for same locations. Also includes expected water surface elevations for floods of 10-, 50-, 100-, and 500-year recurrence intervals.)

7. Federal Emergency Management Agency (or, prior to 1979, U.S. Department of Housing and Urban Development, Federal Insurance Administration), various dates, flood hazard boundary maps, various communities. Department of Urban and Community Affairs is a repository for this information. (A series of maps prepared for many areas of the state to establish flood insurance rate zones prior to completion of detailed flood insurance studies. These maps are usually based on approximate delineations of flood boundaries, and are superseded by FEMA flood insurance studies, where available.)

8. U.S. Geological Survey, various dates, maps of flood prone area, various locations statewide. [A series of maps indicating floodplain boundaries throughout the state, drawn from base maps of USGS (15-min. and 7.5-min. topographic quadrangles) and including date from historical flood records.]

9. Louisiana Department of Urban and Community Affairs, Office of Planning and Technical Assistance, 1982, *Floodplain Management Plan, State of Louisiana*, Baton Rouge, Louisiana. (Discusses flood hazards and damages and aspects of floodplain management; evaluates structural and nonstructural flood hazard mitigation measures; describes flood disaster preparedness and response; and presents legal aspects of floodplain management.)

10. Federally sponsored computerized data information systems include:

a. WATSTORE, U.S. Geological Survey;

b. STORET, U.S. Geological Survey and U.S. Army Corps of Engineers;

c. NAWDEX, U.S. Geological Survey.

11. A computerized resource information system is operated in Louisiana by the State Planning Office. The Louisiana Area Resources Information System (LARIS) includes:

a. land use classifications;

b. soil associations;

c. river basin boundaries;

d. surficial geology;

e. government land management boundaries;

f. political subdivisions;

g. census data;

h. stream hierarchy and basin areas and other physical resources organized by areal polygons with a minimum resolution of 10 acres in urban areas and 40 acres in rural areas.

E. Primary Contact Agencies

1. *Louisiana Geological Survey, Department of Natural Resources, Box G, University Station, Baton Rouge, LA 70893 (225) 342-6754.

2. Louisiana Department of Urban and Community Affairs, Office of Planning and Technical Assistance, Box 94455, Baton Rouge, LA 70804-9455, (225) 925-3756.

3. *State Planning Office, Box 44426, Baton Rouge, LA 70804-4426, (225) 342-7410.

4. Louisiana Department of Culture, Recreation and Tourism, Division of Historic Preservation, Box 44247, Baton Rouge LA 70804-4247, (225) 922-0358.

5. *Louisiana Department of Transportation and Development, Office of Public Works, Box 94245, Capitol Station, Baton Rouge, LA 70804-9245, (225) 342-7535.

6. Louisiana Department of Transportation and Development, Office of Highways, Box 94245, Baton Rouge, LA 70804-9245, (225) 342-7508.

7. Louisiana Department of Environmental Quality, Box 44066, Baton Rouge, LA 70804-4066, (225) 342-1265.

8. U.S. Department of Agriculture, Soil Conservation Service, 3737 Government Street, Alexandria, LA 71302, (318) 473-7760.

9. U.S. Geological Survey, Water Resources Division, Box 66492, Baton Rouge, LA 70896, (225) 389-0281.

10. U.S. Army Corps of Engineers, New Orleans District, Box 60267, New Orleans, LA 70160, (504) 865-1121.

11. U.S. Army Corps of Engineers, Vicksburg District, Box 60, Vicksburg, MS 39180, (601) 634-5000.

*NOTE: Since these agencies constitute the Flood Control Evaluation Committee, it is not appropriate to request their comments at this time.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:571 (May 1985).

Subchapter D. Evaluation of Proposed Projects and Distribution of Funds

§315. Project Evaluation Procedure

A. The Evaluation Committee will compile a priority ranked list for the projects in rural-developed and rural-undeveloped areas within each district and projects within urban areas each funding year. For evaluation purposes, the project classifications concern the characteristics of the benefited area, not the design criteria or the contributing drainage area. The three project classifications are urban, rural-undeveloped and rural-developed. The urban category includes projects located in Shreveport, Bossier City, Monroe, Alexandria, Lake Charles, Lafayette, Baton Rouge, and its contiguous urbanized areas, New Orleans, and the urbanized portions of Jefferson Parish as shown in Figure 1 (in §301). Rural-undeveloped projects are those located in areas with a structure density of 128 or less structures per square mile while rural-developed projects are located in areas with more than 128 structures per square mile. The evaluation will be based on a combination of rating procedures described hereinafter.

B. The priority ranking of each project will be based on the sum of the scores of Parts A and B of the Application Evaluation Forms. Using the combined scores, the Evaluation Committee will produce a program priority list. The priority list will be forwarded to the Joint Legislative Committee on Transportation, Highways and Public Works.

C. Procedure for Application Evaluation Form Part A

1. The Evaluation Committee will review each application and score it according to the following form.

Application Evaluation Form-Part A			
Category	Points		
	Maximum	Credited	Comments
Documentation of Flood Problem	20		
Local Support	5		
Technical Feasibility	45		
Prevention of Loss of Life and Improved Public Safety	5		
Environmental Effects and Impact on Development	5		
Projects Recommended but Not Funded	10		
TOTAL FROM PART A	100	---	

2. The following guidelines will be used by the Evaluation Committee to rate applications to the Statewide Flood Control Program. This scoring procedure pertains to projects which meet the legislative intent of the program. Projects which are engineeringly unsound, cause unreasonable flooding in other areas, cause unacceptable or unmitigable environmental damages or otherwise do not meet the objectives of the program will not be scored.

a. Documentation of Flood Problem (20 point maximum). This category takes into consideration the adequacy of documentation which demonstrates the existence and severity of flood damages.

b. Local Support (5 point maximum). This category takes into consideration the following:

i. letters of support on file from the respective legislative delegation;

ii. no letters of objection from public officials, neighboring authorities, citizens groups, etc;

iii. multiple sponsorship.

c. Technical Feasibility (45 point maximum). This category takes into consideration the following:

i. completeness of project design;

ii. due consideration of alternatives (structural and nonstructural);

iii. compatibility of the project to other federal, state, and local projects;

iv. impact on flooding in areas upstream, downstream, and adjacent to the benefited area.

d. Prevention of Loss of Life (5 point maximum). This category takes into consideration the following:

i. historical losses of life that may have been prevented by the project;

ii. the degree of success of the project at maintaining access to vital services (e.g., hospitals) and protection of evacuation routes.

e. Environmental Effects and Impact on Development (15 point maximum). This category takes into consideration the following:

i. no letters of objection from public agencies;

ii. no impact on special historical, archeological, geological features, or environmentally sensitive areas;

iii. not in a wetlands area;

iv. effectiveness of the project in relation to encroachment into flood prone area (i.e., 100-year floodplain).

f. Projects Recommended But Not Funded (10 point maximum). Add points for each year (up to a four year maximum) that the proposed project has been on the list of recommended projects but has not received funding.

D. Procedure for Application Evaluation Form Part B

1. Ratings are computed on the basis of potential damage reductions associated with the design flood and do not include efforts to annualize benefits and costs. The same formula is to be used for rural-developed, rural-undeveloped projects, and urban projects, and appears below.

$$\text{Part B Score} = \frac{\text{Total Damages*}}{\text{Total Construction Cost}} \times \frac{70}{70 - (\text{PLM} - 30)}$$

where PLM = percent local match

*Total damages are any damages from the design storm which will be prevented by the flood control project including: agricultural crop and land damages; agricultural building damages; damages to residential, commercial, public, and other buildings; damages to roads; damages to buildings; and damages to industries.

2. In the Part B scoring process, projects, projects are separated into their appropriate categories (i.e., rural-undeveloped, rural-developed, and urban). Within each category, the project with the highest raw score is awarded 100 points. The other projects are awarded points based on the ratio of their raw score compared to the score of the highest project multiplied by 100.

E. Example of Evaluations. The Evaluation Committee will add the scores from Parts A and B to derive the total score for each project. The priority ranking will be determined by adding the total scores from Parts A and B for each project. In the following example hypothetical information is used to compare three projects.

1. Part A. The three projects are first scored using the Application Evaluation Form Part A. Results for the three projects are summarized in the following table. Projects are given both a raw score and a final score. The project with the highest raw score is awarded 100 points and competing projects are awarded points based on the ratio of their raw scores to the raw score of the highest scored project multiplied by 100.

2. Part B

a. The following tables demonstrate the Part B evaluation procedure for the same three projects (assumed to be in the rural-developed category). The benefits data presented in the first table would be taken from the applications.

b. The damage reductions and cost data for each category shown in the following table are used to compute the raw scores shown in the table for Part B scoring. The Part B scores will then be used to obtain a final score.

Tabulation of Project Points Credited for Part A

Category	Maximum Points	Project Points Credited		
		Flat River	Danville	Sunnydale
Documentation of Flood Problem	20	12	17	13
Local Support	5	4	5	4
Technical Feasibility	45	36	40	27
Prevention of Loss of Life and Improved Public Safety	5	3	3	2
Environmental Effects and Impact on Development	15	1	3	2
Projects Recommended but not Funded	10	2.5	0	0
RAW SCORE	100	58.5	68	48
FINAL SCORE*		86	100	71

*The project with the highest raw score receives 100 points. The other projects receive a percentage of 100 based on their raw score relative to the project with the highest raw score.

Tabulation of Costs And Benefits

Category	Project Damage Reduction (Dollars)		
	Flat River	Danville	Sunnydale
Agricultural Acres	118,746	600,000	40,000
Residences	4,797,000	1,000,000	350,000
C and I Buildings		50,000	1,100,000
Other Buildings		100,000	700,000
Farm Structures		200,000	100,000
TOTAL DAMAGE REDUCTION	4,915,746	1,950,000	2,290,000
CONSTRUCTION COST	1,300,000	550,000	700,000

PART B SCORING			
Scoring Category	**Flat River**	**Danville**	**Sunnydale**
Raw Score			
Total Damages / Construction Cost =	$4,915,746 / $1,300,000	$1,950,000 / $ 550,000	$2,290,000 / $ 700,000
or	3.78	3.55	3.27
Additional Funding Adjustment =			
70 / 70-(PLM-30)	70 * / 70-(40-30)	70 / 70-(30-30)	70 / 70-(30-30)
or	1.17	1.00	1.00
Adjusted Score = Raw Score x Additional Funding Adjustment	4.42	3.55	3.27
Final Score**	100	80	74
*In this case Flat River contributed greater than the minimum local match and therefore receives a higher score.			
**The project with the highest adjusted score receives 100 points, others receive a percentage of 100 points based on their adjusted score relative to the project with the highest adjusted score.			

3. Priority Score

a. The point totals parts A and B are added in the following table to establish scores for the priority ranking of projects to be recommended for funding.

Final Priority Scores			
Form	**Project**		
	Flat River	**Danville**	**Sunnydale**
Part A	86	100	71
Part B	100	80	74
Total	186	180	145
Rank	1	2	3

b. If these three applications were in the same district and they were all in the rural developed category (as previously stated), the Evaluation Committee would recommend them for funding in the following order:

i. Flat River;

ii. Danville; and

iii. Sunnydale.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:574 (May 1985).

§317. Project Application Review and Public Hearings

A. The Flood Control Project Evaluation Committee will review applications between November 1 and the following April 1. During the review period, public hearings will be conducted in locations convenient to each Statewide Flood Control Program funding district by the Joint Legislative Committee on Transportation, Highways, and Public Works to solicit comments on the projects being considered for funding.

B. During this time, the Evaluation Committee will also receive from the Joint Legislative Committee on Transportation, Highways, and Public Works a projected funding level for the construction program of the coming year.

C. Based on the information gathered at the public hearings and the application evaluations, the Evaluation Committee will submit a list of recommended projects to the Joint Legislative Committee, on the basis of the distribution of funds described below.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:577 (May 1985).

§319. Distribution of Funds

A. The distribution of program funds is based on a two-tiered system including:

1.a. the nine major urban areas in Louisiana as shown in Figure 1 (§301); and

b. the five funding districts shown in Figure 2 (§303);

2. 45 percent of total program funds is allocated to project areas within the nine designated urban areas. Projects within urban area must compete for funding with projects from all urban areas. However, no more than 20 percent of the total amount of funds available to finance projects in Louisiana's urban areas may be allocated to any signal urban area. The urban areas included are Shreveport, Bossier City, Monroe, Alexandria, Lake Charles, Lafayette, New Orleans, Baton Rouge and its contiguous urbanized area, and the urbanized portion of Jefferson Parish. The boundaries of the city limits and urbanized areas are consistent with the U.S. Census Bureau's urban designation;

3. 55 percent of total program funds is allocated to rural projects in the five funding districts. There are two categories of rural projects for funding distribution, rural-undeveloped and rural-developed. The formula for distributing funds among the five districts is as follows:

District's Percent of Available Funding =
[0.50 x (District's Percent of State's total Area)] +
[0.50 x (District's Percent of State's Total Flood Plain Area)]

4. Table 4 presents the funding allocation percentage for each of the five districts.

Table 4 Funding Allocations for Rural Projects by Funding District			
Funding District	**Percent of State Total**		
	Land Area	**Floodplain**	**Funding Allocation**
Northwest	28.3	17.9	23.1
Northeast	18.4	14.9	16.7
Southwest	17.4	13.6	15.5
Southeast	19.3	25.9	22.6
South Central	16.6	27.7	22.1
State Total	100.0	100.0	100.0

B. An important feature of the program is the separation of funds into rural-undeveloped and rural-developed categories within each funding district. The Evaluation Committee determines which category will be used for a project during the application review. The method for making the determination is based on structure density in the

benefited area. Benefited areas with structure densities of more than 128 structures per square mile which are not one of the nine designated urban areas are considered rural-developed. Benefited areas with structure densities of 128 or less structures per square mile are considered rural-undeveloped.

C.1. District funds are divided between the two rural categories. The separation of funds is based on the amount of agricultural land and developed land (excluding the nine urban areas) within each district in relation to the amount within the entire state. The formulas for making the primary separation between rural-developed and rural-undeveloped areas are:

Percent of District Funds Designated Rural-Undeveloped =

(District's Percent of Total State Agricultural Area) -

[(District's Percent of Total State Agricultural Area) +

(District's Percent of Total State Developed Area)] and

Percent of District Funds Designated Rural-Developed =

(District's Percent of Total State Developed Area))

[(District's Percent of Total State Agricultural Area) +

(District's Percent of Total State Developed Area)]

2. The two formulas account for 100 percent of the district funding total in all cases. The recommended funding ratios for the two rural categories are presented in Table 5 of this Section.

D. The Evaluation Committee will make its recommendations for projects within the limitations of the funding projections for the coming year and in accordance with the distributions presented in Tables 4 and 5 of this Chapter. Table 6 of this Chapter presents the funding distribution for a hypothetical $40 million construction program allocation.

Table 5
Recommended Percentage Distribution of Funds, by Rural Category for Funding Districts

Funding District	Percentage of District Funds	
	Rural-Undeveloped	Rural-Developed
Northwest	52	48
Northeast	73	27
Southwest	55	45
Southeast	29	71
South Central	42	58

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:577 (May 1985).

§321. Redistribution Procedure

A. In the event that there are an insufficient number of approved projects in a funding district for a particular category (e.g., rural-undeveloped), then those funds would be allocated to fund projects in the other rural category (in this example, rural-developed) within the same district. If there are insufficient approved projects in both rural categories for a particular district to utilize the funding allocation in a particular year, then the excess funds shall be allocated to fund rural projects in the other funding districts which have been approved but not funded.

B. All excess funds shall be redistributed to other districts on a pro rata basis based on each funding district's percentage of rural project funds (Table 4 of this Chapter). The first priority will be to use unrequested rural-undeveloped project funds to fund approved rural-undeveloped projects in other districts. In the event that funds are still remaining, rural-undeveloped funds may then be used to fund rural-developed projects in other funding districts. Similar, unrequested rural-developed project funds shall be redistributed to other districts after satisfying all approved rural-developed projects and before becoming available to fund approved rural-undeveloped projects in other districts.

C. If funds allocated to the five funding districts are remaining after all approved rural projects have been funded, any remaining funds may then be used to fund approved but unfunded projects in urban areas. Similarly, any funds remaining after all approved urban projects have been funded may then be used to finance rural projects in the funding districts and shall be allocated in the same fashion as any funds initially allocated to these districts.

D. It is the intention of this program that redistributed funds be sufficient to complete a project. If funds available for redistribution are insufficient to complete a project, such funds shall then be carried forward to supplement the funding base for the next year's program.

E. In the event that funds become available due to the expiration of the four-year period allowed sponsoring authorities to generate local matching funds, those funds previously set aside will be redistributed in the same manner as described above.

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:578 (May 1985).

§323. Legislative Process

A. The Joint Legislative Committee on Transportation, Highways and Public Works will submit to the legislature a construction program. As specified by Act 351, the legislature may delete any project that it believes was not selected in accordance with the guidelines of the Act. The legislature may not make any additions or substitutions to the construction program.

B. Projects recommended by the Evaluation Committee but not funded by the legislature will remain on the Evaluation Committee's recommendation list for a period of up to four years. These projects must compete with all other remaining projects from previous funding years (up to four years) and new projects in subsequent funding years. However, projects recommended but not funded will be awarded 2.5 points for each year since the first filing of the project application.

Table 6 Example of Distribution of Funds for Hypothetical $50 Million Construction Program				
			Targeted Funding Range ($ Million)	
District	Total ($ Million)	District Total ($ Million)	Rural-Undeveloped	Rural-Developed
Urban Areas	22.50			
Funding Districts	27.50			
Northwest		6.35	3.30	3.05
Northeast		4.60	3.34	1.26
Southwest		4.25	2.34	1.91
Southeast		6.20	1.80	4.40
South Central		6.10	2.56	3.54
Total	50.00	27.50	13.34	14.16

AUTHORITY NOTE: promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:578 (May 1985).

§325. Construction and Operation

A. Each sponsoring authority designated as a recipient of program funds must enter into an agreement with the Department of Transportation and Development, Office of Public Works, prior to the initiation of construction of a project and awarding of funds. This agreement stipulates what must be followed during all construction phases of the project, operation and maintenance, as well as the sponsoring authorities' obligations under R.S. 38:90. Policies and procedures that must be adhered to are detailed in the *Statewide Flood Control Program Procedural Manual for Funded Projects* made available to all sponsoring authorities designated to receive program funding.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:90 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 5:579 (May 1985).

Chapter 5. Funding Applications

§501. Guidelines and Procedures for Applications for State Funding Assistance

A. Statewide Flood Control Program

1. The requests for Statewide Flood Control Program funds far exceed the amount of money made available each year. In an effort to best utilize the available funds, the following time schedules shall be incorporated into project development.

Task	Maximum Time, Years
1. Execution of Agreement Between OPW and Sponsor	1/2
2. Application of Permits	1
3. Submittal of Preliminary Plans	2
4. Submittal of Draft Final Plans, Specifications and Cost Estimate	3
5. Acquisition of Rights-of-Way Permits and Utility Relocation and Securing the Funding for the Sponsor's Portion of the Project	3 1/2
6. Advertising for Bids and Awarding of Contract	4

2. The date of the letter the chairman of the Flood Control Evaluation Committee advising the sponsor that his project has been funded shall be used as the beginning point in determining the amount of time that has elapsed.

3. In the event a task is not completed within the maximum time allotted, the agreement between OPW and the sponsor shall be canceled and the state funds that were allocated for the proposed project shall be reallocated.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:90.1 et seq.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 1:249 (May 1975), amended LR 12:533 (August 1986).

Chapter 7. Dam Safety Program

Subchapter A. Dam Safety

§701. Introduction

A. The Public Works and Flood Control Directorate of the Department of Transportation and Development (DOTD) serves as the Water Resources agency for the state of Louisiana, providing engineering and technical support for the orderly planning and development of programs and projects related to flood control, drainage, irrigation, water diversions, reservoirs, navigation, port development, hurricane protection, coastal engineering, and management and development of water resources.

B. R.S. 38:21-28 legislation provides for a Dam Safety and Regulatory Program. The Public Works and Flood Control Directorate is charged with the responsibility for administering the program. The program is operated by the DOTD's Water Resources Design and Development Section, with administrative and enforcement authority vested in the Director of the Public Works and Flood Control Directorate.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1234 (December 1996).

§703. Purpose

A. The purpose of R.S. 38:21-28 is to recognize the inherent dangers posed by impoundments of significant volumes of water, and to require that owners of structures which impound water (or other liquids) assume the responsibility for that danger by ensuring that such structures are designed, constructed, and maintained so as to minimize the risk to life and property. Regardless of the circumstances of failure, the owner is ultimately responsible for loss of life and property damages that may occur from the failure of his dam. The Department of Transportation and Development, Public Works and Flood Control Directorate, is charged with the responsibility for developing and enforcing a regulatory program to ensure that public safety and welfare is not compromised by the presence of dams or other impoundment facilities. The Louisiana Dam Safety Program defines the minimum standards for the design, construction, operation, and maintenance of dams in the state of Louisiana, and the DOTD has the responsibility and

the authority to enforce the standards of the program. This rule documents the minimum standards for design, construction, operation and maintenance of dams and impoundment structures and the policies for the enforcement of those standards.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1234 (December 1996).

§705. Glossary

Abutments those portions of the valley sides which underlie and support the dam structure, and are usually also considered to include the valley sides immediately upstream and downstream from the dam.

Auxiliary or *Emergency Spillway* a secondary spillway designed to operate only during unusually large storm events. Louisiana's Dam Safety Program defines " unusually large storm events" as being equal to the 100 year storm event or larger.

Baffle Blocks blocks constructed in a stilling basin to dissipate the energy of fast flowing water.

Berm a horizontal step in a sloping profile. The berm is usually constructed with a slight slope for drainage purposes. The berm is often referred to as a seepage or stability berm.

Blanket Drain a horizontal pervious zone located downstream of the impervious core. This zone is often referred to as a sand blanket.

Breach an eroded opening through a dam that drains the reservoir. A controlled breach is an intentionally constructed opening. An uncontrolled breach is an unintentional opening that allows uncontrolled discharge from the reservoir.

Chimney Drain a vertical pervious zone located just downstream of the impervious core. The chimney drain is usually constructed with a sand material.

Cofferdam a temporary structure enclosing all or part of the construction area so that the construction can proceed in the dry.

Conduit a closed channel to convey discharges through or under a dam. The conduit can be a reinforced concrete pipe, a corrugated metal pipe or a single or multi-barrel reinforced concrete box culvert.

Crest Length of Dam the length of the top of dam. This length includes the spillway(s) and other appurtenant structures. The crest length of dam is basically the length from where the top of dam terminates on one abutment to a similar point on the other abutment.

Cutoff Trench an impervious barrier built into the foundation to reduce seepage under the dam. A cutoff wall or slurry wall could be used as a seepage barrier. The slurry wall is relatively thinner in the horizontal direction when compared to a clay core cutoff trench.

Dam any artificial barrier, including appurtenant works, which does or will impound or divert water or any other liquid substance.

Downstream Slope the inclined surface of an embankment dam that faces away from the reservoir.

Drawdown Structure a low-level outlet which can be used to lower the reservoir below normal pool stage. This may be necessary for lake management purposes, routine repairs or dam safety purposes.

Earthfill Dam a dam constructed predominantly of fine-grained material. Earthfill dams are also known as rolled fill dams where material is placed in layers and compacted by using rollers or rolling equipment.

End Sill the area at the upstream and downstream end of the stilling basin base slab.

Foundation of Dam the natural material on which the dam is placed.

Heel of Dam the junction of the upstream slope with the foundation. The heel of the dam is often referred to as the upstream toe.

Impervious Core a zone of low permeability material. This zone is the water or seepage barrier and is often referred to as the clay core.

Intake Structure the structure placed at the beginning of an outlet works waterway. The intake structure establishes the ultimate drawdown level of the reservoir by the position of its opening(s) to the outlet works. Intake structures may be vertical or inclined towers (drop inlets).

Maximum Cross Section of Dam cross section of a dam at the point where the height of the dam is at it's maximum.

Maximum Storage Capacity the capacity at maximum storage is the volume in the reservoir in acre-feet when the level in the reservoir is at top of dam elevation.

Non-Overflow Wall a wall which is usually constructed parallel to the spillway crest at an elevation equal to the top of dam elevation. This wall is not designed to be overtopped and are often referred to as a closed dam section.

Normal Pool Stage the water level at the dam to which water may rise under normal operating conditions and for uncontrolled spillways is defined as the lowest crest elevation of the principal spillway. This does not include flood surcharge.

Outlet Gate a gate on the drawdown structure or spillway which is used to control the outflow of water.

Piping the progressive internal erosion of an embankment, foundation, or abutment material. The erosion (piping) begins on the downstream side and progresses upstream.

Primary or *Principal Spillway* the first used spillway during flood flows.

Probable Maximum Flood (PMF) the flood that may be expected from the most severe combination of critical meteorologic conditions that are possible in the region.

Retaining/Training Walls walls which are usually constructed perpendicular to the spillway crest. Retaining walls are walls which support an overturning load. Training walls are walls which confine or guide the flow of water. In many instances, these walls serve both purposes and can be referred to as either a retaining or training wall.

Riprap a layer of large uncoursed stones, broken rock or precast blocks placed in a random fashion on the upstream slope of the dam and stilling basin outlets. Riprap is a flexible type of slope protection which will deform if material is displaced from beneath.

Riser a type of drop inlet spillway with a vertical section of metal or concrete pipe that allows the reservoir to rise to a predetermined level before water flows into the pipe.

Slope Protection protection against wave action or erosion. The two most common types of slope protection, are riprap and soil cement.

Sluice a low-level opening for releasing water from a dam.

Soil Cement a well compacted mixture of soil, portland cement and water that produces a hard pavement. Soil cement is usually placed in horizontal layers. Soil cement is a rigid type of slope protection which attempts to span voids.

Spillway Crest the overflow section or top of weir section of the spillway.

Stilling Basin a basin constructed to dissipate the energy of fast flowing water. The stilling basin area is located just downstream of the spillway crest between the training/retaining walls.

Structural Height the distance between the lowest point in the excavated foundation and the top of the dam.

Surcharge/Flood Surcharge the volume or space between normal pool and the maximum design water level.

Tailwater the level of water immediately downstream of the dam.

Toe of Dam the junction of the downstream slope with the foundation. The toe of the dam is often referred to as the downstream toe.

Top of Dam/Crown the uppermost surface of the dam. The top of dam can also be referred to as the crest of the dam. When the term "crest" is used, it must be specified that it is the "crest of the dam" and not the "crest of the spillway."

Uncontrolled or *Ungated Spillways* spillways where the flows over the spillway crest are controlled only by the elevation of the spillway crest. This type of spillway is often referred to as a fixed crest spillway. *Normal Pool Stage* for uncontrolled spillways is defined as the lowest crest elevation of the principal spillway.

Upstream Slope the inclined surface of an embankment dam that is in contact with the reservoir.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1234 (December 1996).

§707. Applicability

A. The regulations of this program will govern the construction, enlargement, alteration or repair, maintenance and operation of all dams as defined by R.S. 38:21-28. The terms *dam* and *impoundment structure* are used interchangeably and shall mean the embankment, spillway(s), outlet works and other attendant parts. Included are all artificial barriers together with all appurtenant works which impound or divert water or any other liquid and which are:

1. 25 feet or more in height and have an impounding capacity at maximum storage greater than 15 acre-feet, (See §729, Appendix 1); or

2. have an impounding capacity at maximum storage of 50 acre-feet or more and are greater than 6 feet in height (See §729, Appendix 1).

B. All barriers which are 6 feet or more in height with maximum storage capacities of 15 acre-feet or more must be submitted to the DOTD for review (See §731, Appendix 2). The height of a dam is measured from the natural bed of the stream or watercourse at the downstream toe of the barrier, or if it is not across a stream or watercourse, the height from the lowest elevation of the outside limit of the barrier, to the top of the dam.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1236 (December 1996).

§709. Permitting

A. Application for Permit. Written approval for construction from the DOTD will be required prior to constructing any new impoundment structure or commencing any structural modifications to existing impoundment structures. Permit forms may be obtained from the Director, Public Works and Flood Control Directorate, Louisiana Department of Transportation and Development, Box 94245, Baton Rouge, LA, 70804-9245. The permitting process is intended to ensure that new structures and modifications to existing structures are designed and constructed in accordance with the requirements documented herein. (See §733, Appendix 3.)

B. National Resources Conservation Service (NRCS), formally called Soil Conservation Service (SCS). The approval process may be abbreviated if dams meet the requirements of "Pond Standard 378" of the National Resources Conservation Service *National Handbook for Conservation Practices* and the National Resources Conservation Service's engineering staff provides the design,

layout, and construction inspection. In this case, the National Resources Conservation Service will certify that the dam design and construction meets the requirements of "Pond Standard 378" and they will provide the DOTD with the Pond Data Sheet, a map showing the location of the pond, and a letter signed by the owner of the dam (See §735, Appendix 4). The National Resources Conservation Service will agree to periodically inspect the structure to ensure that "Pond Standard 378" is being maintained, and to inform the DOTD if the structure ever falls below "Pond Standard 378."

C. Public Hearings. After an application has been filed and accepted, the public in the affected locale will be notified by publication in the local news publication. The Director of Public Works and Flood Control will prepare a notice, assigning a date and place for a public hearing of the application. The notice will contain information describing the application and the name and address of the applicant (See §737, Appendix 5). It will be the applicant's responsibility to have the notice published once a week for two consecutive weeks in the official journal of the parish in which the project will be constructed, and shall provide notarized proof of publication on or before the hearing date. The applicant will bear the cost of the publication. The DOTD will conduct the public hearing, and the applicant will be required to attend to describe the nature and purpose of the proposed project and to answer questions.

D. Issuance of a Permit. An "Impoundment Permit/Certificate of Completion" shall be issued for all dams, both existing and new construction. The "Impoundment Permit/Certificate of Completion" is not transferable. The owner of a dam must notify the DOTD 30 days prior to transferring ownership of the dam, and must return the "Impoundment Permit/Certificate of Completion" to the DOTD.

E. Failure to Obtain Approval. If, prior to beginning construction, the owner fails to obtain approval, the owner will be cited and fined under the statutory authority of R.S. 38:28. Also, the lake may be ordered to be drained until all approvals have been obtained.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1236 (December 1996).

§711. Submittals

A. All designs for work to be permitted under the program will be submitted for review and approval with all necessary supportive documentation (See §739, Appendix 6). Normally it is expected that an owner or prospective owner will establish contact with the DOTD to apply for a permit to construct or modify a dam. An example of a letter notifying the DOTD of intent to construct or modify a dam is provided (See §741, Appendix 7). In some cases, however, structures are built and water is impounded without the knowledge or approval of the DOTD. When such structures are discovered, the owners will be contacted by the DOTD and required to furnish documentation that their structure meets the safety requirements of the program. In either case, the applicant shall be guided by the Water Resources Design and Development Section throughout the review and approval process. The documentation required shall be formal engineering designs and calculations, supported by sufficient field information, and certified by a professional civil engineer registered to practice in Louisiana. Because each step in the design of a dam is dependant upon the quality of the design judgments made in the previous steps, the applicant is advised to coordinate each of the design stages identified in the next Section with the DOTD review team prior to proceeding to the next step.

B. After general designs have been approved, the applicant may proceed with plans and specifications, which will also require approval before construction can begin. Plans and specifications will be of professional engineering detail and quality and will include all information and directions necessary to construct the dam in accordance with the design intent.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1236 (December 1996).

§713. Design

A. The proper design of a dam involves a complex combination of engineering applications. It is not within the scope or intent of this document, nor will it be the practice of the staff of the DOTD, to instruct in the detailed procedures for the design of a dam. All dams and impoundment structures to be permitted under this program will be designed by a professional civil engineer(s), registered by the Louisiana State Board of Registration for Professional Engineers and Land Surveyors. The registered civil engineer will certify the designs and plans by professional seal. Designs must conform to nationally recognized standards, further explained in the following Paragraphs and in the Appendices. The completed design package will state the intended design life of the structure, and will include the operations and maintenance procedures necessary to ensure that the structure will function as designed for its stated design life.

B. Failure of an impoundment structure and the instantaneous release of large volumes of water is referred to as a dam breach. It is the primary risk associated with dams, and is the fundamental reason for the state to assume regulatory authority over dams through the Louisiana Dam Safety Program. Breaching may occur during fair weather due to the cumulative effects of erosion or seepage, or it may occur as a result of stresses caused by excess water produced during a storm event. The hydraulic and hydrologic (H and H) design will determine which of the two scenarios poses the greater hazard, the volume of water which is likely to be released, and the rate of flow.

C. It is the H and H design which determines the volumes and flow rates with which the impoundment structure(s) must contend. The geotechnical and structural designs must ensure that the impoundment structure(s) can safely accommodate the hydraulic forces imposed by the

conditions predicted by the H and H design. Following are the sequential steps which are necessary in any dam/impoundment structure design, and each step must be documented with design calculations and all supporting data, certified by a Registered Professional Civil Engineer:

1. Hydrology and Hydraulics (H and H) Design

a. Impact (Hazard) Classification.

b. Determination of controlling design condition and associated storm runoff.

c. Setting of spillway and stilling basin widths and elevations, top of embankment elevation, and normal pool stage.

2. Structural and Geotechnical Design of Embankment, Spillways, and Drawdown Structures

3. Development and Documentation of Operations and Maintenance Procedures

NOTE: For the purpose of the Dam Safety Program, the *Emergency Spillway* shall be defined as being overtopped by the 100-year storm or greater and the *Principal Spillway* shall be defined as being overtopped by a storm less than the 100-year storm.

D. Hydrology and Hydraulics (H and H) Design

1. Before the structural design of the dam can begin, the requirements of hydraulic capacity must be determined. The height of the dam, the amount of freeboard above normal pool elevation, the size and capacity of the principle and emergency spillways, must all be designed to balance the hydrological and hydraulic properties of the location of the reservoir. A properly designed drawdown structure, capable of reducing the stage of the reservoir at a suitable rate in the event of emergency, must also be designed to meet the capacity requirements of the site.

2. H and H design begins with the Impact Classification (also referred to as Hazard Classification in some texts) of the dam. The Impact Classification is determined by an evaluation of the probable maximum impacts of a dam breach. Low impact structures are those for which, because of size and/or location, little or no significant damage to life or property is likely to result from a failure of the structure. Significant impact structures are those which could cause appreciable damage to property or could pose possible threat to human life in the event of failure. High impact structures are those for which failure would cause excessive property damage or make loss of human life likely.

NOTE: The inflow design flood (IDF) is determined by the various Hydrograph Methods after the precipitation amount is developed. The major source of precipitation data is the National Weather Service (NWS). The DOTD has final authority for approval of the method to be utilized to determine the IDF.

Table 1. Impact Classification and Inflow Design Flood

Impact Category	Potential Loss of Life	Potential Economic Loss	Minimum Inflow Design (IDF)
Low	Not Likely	Minimal	50-Yr. Freq.
Significant	Possible	Appreciable	100-Yr. Freq.
High	Likely	Excessive	1/2 PMF

3. Further guidance in assessing the potential hazards and associated impact classification for dams may be found in the publication referred to in §727. It is the responsibility of the owner/applicant to establish impact classification, and all dams will be considered to be of High Impact potential until demonstrated to be otherwise by a documented analysis provided by the applicant. The proposed impact classification must be supported by sufficient analysis and documentation, and the DOTD will have final authority for assigning Impact Classification.

4. Having established the Impact Classification for the structure, the next step is to establish the magnitude of the meteorological event on which the entire design is to be based. Dams must be designed to be able to safely withstand the passage of a flood of design magnitude. The Inflow Design Flood (IDF) is the largest storm event to be considered in the design of the structure, and the magnitude of the storm event for which the IDF is computed is related to the Impact Classification. The values shown for IDF in Table I are minimums, and the storm event to be used as the IDF will be determined by a site specific analysis. For low impact structures, the primary consideration is the protection against loss of the dam and its benefits in the event of failure, while for significant and high impact structures, adequate protection of life and property must be assured.

5. For dams classified as high impact, the IDF is defined as the flood event above which a breach of the dam does not increase hazard to downstream interests. The upper limit of the IDF for high impact structures is the Probable Maximum Flood (PMF), which is the flood which may be expected from the most severe combination of critical meteorological and hydrological conditions which are reasonably possible. While the PMF is the upper limit for the IDF, the IDF for high impact dams may be an event of smaller magnitude, depending upon an incremental hazard assessment. The incremental assessment is a routing of floods of increasingly larger magnitude through the structure and downstream channel reaches, comparing conditions with and without a dam failure, until a flood magnitude is reached for which the dam failure condition does not appreciably increase the hazard potential.

6. Dams classified as having significant impacts may or may not require a formal incremental hazard evaluation, depending upon the extent of existing and potential downstream development, the size of the reservoir, and the type and use of the dam. The upper limit of the IDF for significant impact structures is the PMF.

7. For dams with low impact classification, the incremental hazard evaluation is not required, and the IDF can be based upon factors related to loss of service of the dam, potential maintenance costs, etc., but with the 50-year frequency storm being the minimum design event.

8. The Water Resources Design and Development Section should be a partner in establishing the IDF, and designs should not proceed until agreement has been reached between the DOTD and the owner's engineer on the choice of the IDF. Establishing the IDF is the foundation for the

entire design process, since the dam must be designed to safely pass and/or contain the IDF. A guideline for performing the incremental hazard evaluation necessary to establish the IDF is provided in the publication referred to in Subsection N.

9. How the IDF is to be safely passed by the dam structure and the stability of the dam against the long-term effects of hydrostatic forces is the subject of the balance of the design effort, including the general configuration of the dam; length, elevation, and composition of principal and emergency spillways; storage capacity above normal pool elevation; erosion protection; and stability design. The most practical way of assuring the integrity of the dam during an IDF is to provide a concrete spillway which is capable of carrying the peak flow of the storm. Principal spillways are normally sized to carry flows from all but the largest of storms, with emergency spillways, which are not normally armored, functioning only during major storm events. If the peak flow from the IDF can be contained within the principal and emergency spillways, the stability of the dam is not likely to be threatened by the erosive action of water flowing over the embankment. The designer may wish to balance the relative economy of providing spillway capacity versus storage capacity above normal pool stage. But, if design calculations indicate that the embankment will be overtopped by the IDF, provisions must be included in the design to prevent the embankment from failing under the erosive forces of the overtopping flows.

E. Geotechnical Design

1. It is essential to the stability of the structure that the material used in the impoundment structure, as well as the foundation and adjoining earth have the necessary structural properties to withstand the hydrostatic forces required by the design, that potential for destructive seepage is identified and appropriately dealt with, and that the surfaces of the structure are adequately protected from surface erosion.

2. Field investigations shall be adequate to define the soils and ground water conditions with respect to stability and seepage control. Stability analysis should consider after-construction conditions, based on the undrained shear strength parameters determined by laboratory tests. Long-term steady seepage, partial pool, and rapid drawdown analyses should also be performed, using shear properties appropriate to the subject materials and minimum safety factors shown in the following Table.

Table 2. Factor of Safety for Stability Analysis	
Analysis Condition	**Factor of Safety**
Rapid Drawdown	1.25
Partial Pool	1.40
Steady Seepage	1.40
After Construction	1.30
Earthquake	1.15

6. Structural Design. Structural Designs are to be prepared in accordance with generally accepted structural engineering practices such as those of the American Concrete Institute, the American Institute of Steel Construction and the American Institute of Timber Construction. Components of the spillway or other appurtenant structures shall be designed to resist the most critical loading combination of dead loads plus live loads that may occur during its construction or design life. Some of the loads which must be considered in the design are: buoyancy forces, sliding forces, hydrostatic uplift forces, bearing forces, overturning forces, water drag forces, wing drag forces, gate-lifting and closing forces, soil and water pressure forces, impact forces, uniform and point live load forces, etc. The minimum factors of safety for buoyancy and sliding shall be 1.5 and 2.0, respectively. The overturning analysis must indicate that the resultant force falls within the center 1/3 of the base. The minimum factor of safety for pile design shall be 2.0.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1237 (December 1996).

§715. Construction

A. It will be the owner's responsibility to ensure by the presence of professional construction supervision personnel that the structure is built in strict compliance with the approved designs and specifications. Adequate records shall be maintained to document that all materials and construction procedures meet or exceed those specified. The owner shall report on the construction to the DOTD. The work of construction, enlargement, alteration, repair or removal of a dam or reservoir for which approved application, designs, plans and specifications are required shall be under the responsible charge of a registered civil engineer. Upon completion of the work and prior to the impoundment of water, the engineer shall certify that all work has been done in compliance with the approved plans and specifications (See §743, Appendix 8).

B. During construction, periodic inspections may be made by representatives of the DOTD. The owner will be required to provide such works or tests as may be needed to disclose sufficient information to enable the DOTD to determine that conformity with approved plans and specifications is being maintained. Inspections made by the DOTD are "limited inspections" and do not relieve the owner or the owner's engineer from their responsibilities for conformance to accepted designs and procedures.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§717. Maintenance and Operations

A. Once in service, the integrity of the impoundment structure must be sustained by regular maintenance, in accordance with the approved Operations and Maintenance document provided by the designer. The Operations and Maintenance Manual should contain forms and schedules for records and documentation of inspections, maintenance procedures, and repairs. The owner will be responsible for certifying, through properly documented records, to the

DOTD that the required periodic inspections have been made, for correcting any deficiencies revealed during such inspections, and for maintaining records of all operations and maintenance activities, as well as of original construction and any subsequent modifications.

B. An Emergency Preparedness Plan is required for all dams and reservoirs. The plan shall comply with the guidelines of the current issue of Louisiana's *Emergency Action Plan Guidelines*, available from the DOTD's Director of Public Works and Flood Control. The Emergency Preparedness Plan will be a condition of the permit for the project, and it will be the owner's responsibility to implement the provisions of the plan in the event of emergency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§719. Inspections

A. The DOTD will periodically inspect every dam in the jurisdiction of the program. The purpose of the DOTD inspections is to ascertain whether the structure is being properly maintained in accordance with the approved Operations and Maintenance procedures. The DOTD inspections are "limited inspections" and do not relieve the owner of responsibility to perform and document periodic inspections. If an inspection by the DOTD reveals that a dam is unsafe or in danger of becoming unsafe, the DOTD, through the Director of Public Works and Flood Control, shall direct the owner to take whatever action is necessary to restore the dam to its design condition.

B. The owner has the primary responsibility for insuring the safe condition of the structure by regular maintenance and periodic inspection. The owner is required to immediately inform the Director of Public Works and Flood Control of any unusual circumstances or occurrences which may affect the condition or safety of the reservoir. Also, the Director will be notified prior to any planned draw downs of the reservoir.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§721. Enforcement

A. If any dam or impoundment structure is determined to be unsafe, the Director of Public Works and Flood Control, pursuant to R.S. 38:21-28, shall direct any such repairs or remediations for a dam or impoundment structure as he deems necessary to insure that life and property are not unduly threatened by the impoundment. such remedial action may include:

1. direction that the water level behind the structure be lowered to a safe level; or

2. that the imploundment be completely drained until all necessary corrections to the structure have been made.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§723. Existing Structures

A. All dams constructed or under construction prior to promulgation of these Rules will be reviewed to assess their disposition under the program regulations. Each dam is unique and must be judged on the basis of its own particular set of circumstances. Based on the circumstances of each individual case, a judgment will be made of what modifications or repairs are necessary to meet program standards. It is the intent of the program to eventually have every dam upgraded to meet program standards. The DOTD will be the sole judge of whether an existing deficiency creates an unacceptable risk to the general public. While it is not the intent of this program to lower the standards for existing dams, the DOTD recognizes that it is not practical to require all dam owners to immediately retrofit their structures to meet new minimum Inflow Design Flood standards.

B. An "Impoundment Permit" is required for existing dams and will be issued after reviewing all historical data (designs, plans, specifications, operation and maintenance records, etc.) and performing a technical inspection (or inspections) to adequately assess the safety of the dam. The owner shall provide all historical data, if available.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§725. Emergency Preparedness Plan

A. An Emergency Preparedness Plan is required for all dams and reservoirs both existing and new construction. The plan will comply with the guidelines of the current issue of Louisiana's *Emergency Action Plan Guidelines*, available from the Director of Public Works and Flood Control, and shall be submitted as a necessary component of the Maintenance and Operating Procedures and as a condition of the permitting process. It is the owner's responsibility to assure that the provisions of the Emergency Action Plan are implemented in the event of an emergency situation.

B. A breach analysis is required to develop the emergency preparedness plan. The breach analysis will establish the magnitude of the inundated area (inundation map), peak flood elevations and arrival times of the peak flood elevations at critical locations. The worst case scenario breaching event will be somewhere between the "sunny day" breach and that event above which a breach of the dam does not increase hazard to downstream interests. If the dam owner prefers to perform only one breach analysis rather than performing incremental analyses to discover the worst case scenario breaching event, he may perform a breach analysis where the tail water is at the average annual elevation and the reservoir is at maximum design surcharge.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1239 (December 1996).

§727. References

A. Jerrold W. Gotzmer, William C. Jenkins, Ramon G. Lee, Joseph R. McCormick, Harvey H. Richardson, and David L. Sveum, *Training Aids for Dam Safety, Module: Evaluation of Hydrologic Adequacy, Interagency Committee on Dam Safety* (Available from: Louisiana Transportation Research Center, 4101 Gourrier, Baton Rouge, LA 70808, telephone (225) 767-9131).

B. Peter G. Grey, Terry G. Fairbanks, Tasso Schmigall, and Charles D. Wagner, *Training Aids for Dam Safety, Module:*

Evaluation of Hydraulic Adequacy, Interagency Committee on Dam Safety (Available from: Louisiana Transportation Research Center, 4101 Gourrier, Baton Rouge, LA 70808), telephone (225) 767-9131).

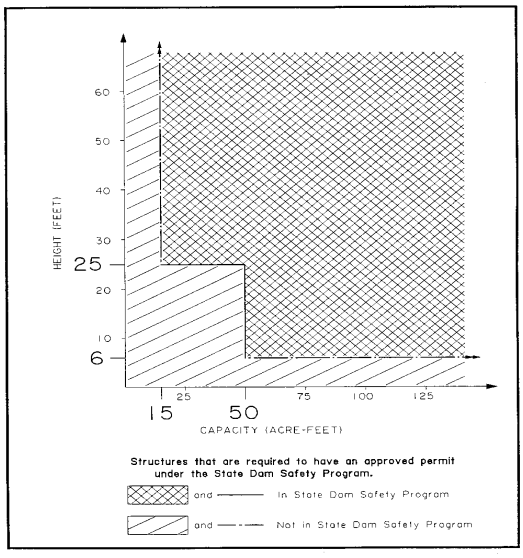
AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1240 (December 1996).

Subchapter B. Figures and Forms

§729. Appendix 1, Structures—Approved Permit

A. Structures that are required to have an approved permit under the State Dam Safety Program.

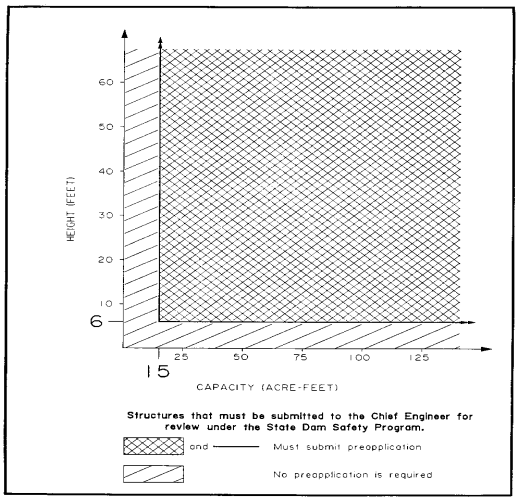


AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1240 (December 1996).

§731. Appendix 2, Structures—Chief Engineer Review

A. Structures that must be submitted to the Chief Engineer for review under the State Dam Safety Program.



AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1240 (December 1996).

§733. Appendix 3—Procedural Sequence

A. Applicant or his Engineer submits "Letter of Intent."

B. Applicant or his Engineer submits "Pre-Application for Construction of Dam."

C. Applicant publishes "Notice of Application" and a "Public Hearing(s)" is (are) held.

D. Applicant or his Engineer submits "Designs, Plans and Specifications" as follows and submits "Application for Construction of Dams."

1. "Impact (Hazard) Classification.

2. Determination of controlling design condition and associated storm runoff.

3. Setting of spillway and stilling basin widths and elevations, top of embankment elevation, and normal pool stage.

4. Plans, Specifications, Designs and other Submittals.

E. The DOTD issues "Approval or Denial of Application"; Approval is an "Approval for Construction."

F. Construction begins; Applicant or his Engineer performs "Construction Inspections."

G. If "Deficiencies" are found by the DOTD, Applicant or Applicant's Engineer; then the Applicant or his Engineer shall correct the deficiencies.

H. Supervision of Construction by the Owner.

I. Applicant or his Engineer submits "Notice of Completion" and "As-Built Drawings" and revised "Application for construction of Dam."

J. The DOTD issues "Certificate of Completion/Impoundment Permit."

K. Applicant or his Engineer submits "Maintenance and Operation Procedures" for the DOTD's approval.

L. Applicant or his Engineer submits "Emergency Preparedness Plan" for the DOTD's approval.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1241 (December 1996).

§735. Appendix 4C—Pond Data Sheet

Date: _____

Dam Safety Administrator
Louisiana DOTD
P. O. Box 94245, Capitol Station
Baton Rouge, Louisiana 70804-9245

RE: Pond Construction

I am aware that the design, construction and operation of all dams within Louisiana is regulated by the Rules and Regulations for Dam Safety Program as developed by the State of Louisiana, Department of Transportation and Development. I am also aware of the liability that is associated with owning a dam.

Since I am receiving design and construction assistance from the National Resources Conservation Service, the dam described below is excluded from the approval process outlined in the Dam Safety Regulations. However, if for some reason (such as a land use change) the dam no longer comes within the criteria of the National Resources Conservation Service National Handbook for Conservation Practices-Standard 378, I agree to modify the structure if necessary to comply with the requirements of the Dam Safety Regulations. I also agree to allow access for inspection of this structure.

Sincerely,

OWNER

DAM LOCATION:
DESCRIPTION:

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1241 (December 1996).

§737. Appendix 5C—Notice of Application

Pursuant to the Rules and Regulations of the Louisiana Dam Safety Program as established by R.S. 38:21-28 interested parties are hereby notified that a "Letter of Intent" and a "Pre-Application for Construction of Dam" have been received by the DOTD Public Works and Flood Control Directorate to construct the proposed Dam and Reservoir Pre-Application Number PA _____ located in Section _____ , Township ____ , Range _____ , Parish _____ .

Applicant:

(Name)
(Address)
(Phone)

Purpose and Brief Description of Dam:

All interested parties are hereby notified that a public hearing on the application will be held at __ p.m. on ___ at _____.

Any interested party shall have the right to request a public hearing on the application. Requests for additional public hearings must be in writing and must be submitted no later than the close of the public hearing on ____ . Letters must state, with particularity, the reasons for holding a public hearing, applicant's name and pre-application number. On receiving a written request for an additional hearing(s) within the time limits set forth in this notice, the DOTD Public Works and Flood Control Directorate shall set a date, time and place for conducting a hearing on the application. During the hearings, any interested party shall have the right to protest the application and to appear and present evidence and testimony in support of such protest.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1241 (December 1996).

§739. Appendix 6C—Minimum Required Submittals

A. All structural, geotechnical, hydrologic and hydraulic design calculations. An engineer's report shall also be submitted which summarizes the design analyses and shall include, but is not limited to, the following:

1. Formulas, methods and basic data assumptions used in the designs.

2. List of all pertinent design codes.

3. Summary tables which list design load cases, computed design factors of safety and required factors of safety as specified in these rules and regulations or required by pertinent design codes.

4. All other information which aided in evaluating the design, supported assumptions and conclusions, and will facilitate an independent review.

B. Plans with sufficient details to construct all features of the dam in accordance with the design intent. Also, the plans shall include details to construct a permanent reference mark (bench mark) near, but separate from, the project. The exact location and elevation above mean sea level must be noted on the "as-built" plans.

C. Specifications with sufficient details to construct all features of the dam in accordance with the design intent. The specifications shall also provide that the plans and specifications may not be changed without prior written approval by the DOTD.

D. Document(s) to show proof of ownership.

E. An inspection plan specific to the construction activity. The inspection plan is to detect deficiencies or situations that may result in a threat to life and property.

F. An emergency action plan specific to the construction activity. The inspection plan in Item 5 is part of the emergency action plan under this Item.

G. If the applicant has an agreement or contract with another entity who will be responsible for the operation and maintenance of the dam, the applicant must provide copies of the agreement or contract document(s).

H. If the applicant is constructing the dam for the specific purpose of transferring ownership to a homeowners' association, a landowners' association, or any other entity, the applicant must provide a document which clearly states his intent, i.e., a dam which is constructed for a subdivision development where ownership will be transferred to a homeowners' association.

I. All other "Permits" required to construct the dam and "Letters of No Objection" which were obtained from various regulatory entities.

J. "As-Built" plans.

K. "Operation and Maintenance Manual".

L. "Emergency Preparedness Plan".

NOTE: The applicant should submit two copies of all preliminary submittals. The applicant must submit five copies of all final submittals.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1241 (December 1996).

§741. Appendix 7CLetter of Intent

Purpose: To notify the Louisiana Dam Safety Program of the applicant's intent to construct, enlarge, alter, repair or remove a dam within the state.

Address To: Louisiana Dam Safety Program
Louisiana Department of Transportation and Development
Public Works and Flood Control Directorate
Box 94245
Baton Rouge, LA 70804-9245

Contents:
1) Name of proposed or existing dam
2) Purpose of dam:
3) Owner's:
Name:
Address:
Telephone:
4) Location of dam (section, township, range, parish).
5) Brief description of proposed dam construction, enlargement, alteration, repair or removal.
*6) Height of Dam (height in feet from top of dam to lowest point at downstream toe of dam).
*7) Reservoir Capacity (volume in acre-feet with water at top of dam).

NOTE: *Items 6 and 7 can be approximated at this time.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1242 (December 1996).

§743. Appendix 8CLetter of "Notice of Completion and As-Built Drawings"

Purpose: To notify the Louisiana Dam Safety Program that the construction of the subject project is complete and to certify that said construction was done in accordance with the approved designs, plans, drawings and specifications.

From: Applicant's Consulting Engineering Firm (letter must be signed and sealed by a Registered Professional Civil Engineer licensed in the State of Louisiana).

Address to: Louisiana Dam Safety Program
Louisiana Department of Transportation and Development
Public Works and Flood Control Directorate
Box 94245
Baton Rouge, LA 70804-9245

NOTE: As-Built Drawings must be received by the DOTD Public Works and Flood Control Directorate within 30 days after completion.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1242 (December 1996).

§745. Appendix 9CLetters of No Objection and Other Permits

A. The applicant must forward copies of the pre-application to the appropriate state, federal and local agencies to obtain letters of no objection and/or permits as required by these agencies. Copies of the letters of no objection and permits must be submitted to the Louisiana Dam Safety Program as part of the applicant's application under this program.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1242 (December 1996).

§747. Appendix 10CMinimum Hydrologic and Hydraulic Submittals to Establish Impact Classification and Inflow Design Flood (IDF)

A. Since the required submittals may vary for each dam, it is recommended that applicant or his engineer obtain copies of references Number 1 and 2 of the Dam Safety Rules and Regulations. After reviewing these documents, the applicant or his engineer is advised to contact the Dam Safety Program of the Water Resources Design and Development Section of the DOTD for further guidance.

AUTHORITY NOTE: Promulgated in accordance with R.S. 38:24.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Office of Public Works, LR 22:1242 (December 1996).

Title 56
PUBLIC WORKS
Part III. Flood Control and Water Management
Subpart 2. Port Construction and Development Priority Program

Chapter 21. Louisiana Port Construction and Development Priority Program

§2101. Provisions of Act 452 of 1989 Regular Session

A. Creation of Priority Program

1. The Louisiana Port Construction and Development Priority Program was created by Act 452 of the 1989 Regular Session. Before this program, the state funded ports projects through the Capital Outlay Program without requiring any feasibility studies. From 1977 to 1984 Louisiana expended more funds for ports than any other state in the union. For this period Louisiana spent $25,985,000 on shallow draft ports and $173,424,000 on deep draft ports for a total of $199,409,000.[1]

2. The creation of the Port Construction and Development Priority Program changed the method by which Louisiana participated in port improvements. The feasibility of proposed port projects must now be determined and the projects must be prioritized. The source of state funds for the Louisiana Port Construction and Development Priority Program is the Transportation Trust Fund. Revenue accrues to the Transportation Trust Fund through the collection of taxes placed on the sale of gasoline.

3. In general, the purpose of a priority program is to disburse funds to projects that have the highest prospects of success as determined by objective standards such as technical and financial feasibility and overall impacts. A priority program also defines the standards by which these projects are evaluated and provides the mechanisms to conduct the evaluation according to an accepted methodology. Moreover, a priority program's application process may serve as a means to determine whether proposed projects are even eligible for funding under the program as well as provide the basis for maintaining a current inventory of facilities that can be used for future purposes.

4. The components of a typical priority program includes legislative authorization, a set of rules and regulations governing the program's implementation, an application process, an evaluation procedure, a prioritization of projects, funding, and finally implementation.

5. With regard to Louisiana's port priority program, many of the overall requirements and procedures are similar to other priority programs. However, Louisiana's program specifically emphasizes the need of equitable rationalization of state expenditures in order to avoid duplication of port infrastructure. In addition, because ports are dynamic economic entities, Louisiana's port priority program provides for rigorous analysis of forecasted project benefits in order to ensure the overall impact of the project on the state will be positive, providing maximum benefits for the state. Finally, because effective project implementation is as important to the success of the program as project prioritization, the Louisiana port priority program stipulates strict procedures for the planning and construction of funded projects as well as the operation of maintenance of the completed project.

B. Port Project Evaluation Methodology

1. Act 452 requires that the Department of Transportation and Development (department) develop procedures for review and a methodology to evaluate port projects which are seeking state funds.

2. Procedures to review and evaluate port project applications for funding shall be submitted to the Joint Legislative Committee on Transportation, Highways and Public Works. Before implementing these procedures, the approval of the committee shall be obtained in accordance with the Administrative Procedure Act.

3. The department may contract with the Louisiana State University National Ports and Waterways Institute for any of the duties associated with the development of the port priority program. These activities may include but are not limited to the development, review, and evaluation of plans and specifications and the development of the port program list. However, the final determination of the port priority list shall remain with the department and the Joint Legislative Committee as provided by Act 452.

4. An inventory of ports, navigable waterways, and water transportation facilities shall be maintained. Both private and public facilities shall be included. Information such as location, capacities, and capabilities shall be included. The department shall also serve as a clearinghouse for inquiries for ports and waterways information.

5. Each year, the department shall prepare a summary report of financial requirements for expanding or renovating existing ports and waterways facilities and constructing new ones. The financial requirements shall be separated into state, federal, local and private funds required.

C. Program Procedures

1. Any port authority may submit an application for funding to the department except as provided in R.S. 34:3456. Applications shall be submitted by November 1 for consideration in the following fiscal year. The application

shall include a description of the project, demonstration of immediate need, preliminary design, cost estimate, and a description of the project area.

2. The Louisiana Department of Transportation and Development shall review the applications. Applications shall not be subjected to a formal review and evaluation until the information required in the application has been submitted. Applications shall also be reviewed by any appropriate state agencies.

3. The act provides for the submittal of a list of recommended projects in prioritized order to the Joint Legislative Committee. The committee will hold public hearings to obtain public input concerning the priority list. After the hearings and before the convening of the regular session, the department shall prepare a recommended construction program for the coming fiscal year and submit it to the joint legislative committee. When the recommended construction program is presented to the legislature for funding, the legislature cannot add any projects to the program.

4. Upon funding by the legislature, the department shall enter into an agreement with the port authority to participate in the construction of the project. The port authority shall provide 25 percent local match for the cost of constructing the project, and shall furnish all lands, easements, rights-of-ways, and spoil disposal areas at no cost to the state unless said items are critical to the project. The port authority also shall operate and maintain the facility without cost to the state.

5. Port authorities domiciled in a parish with a population of 50,000 or more shall be responsible for the preparation of plans and specifications, for letting of bids for construction, and for construction observation. Port authorities domiciled in a parish with a population less than 50,000 may request the department to prepare plans and specifications, to let the project for bids, and to observe construction. The engineer that prepared the plans will inspect the work and certify that the project complies with the plans and specifications upon completion.

6. All contracts for construction shall be advertised and awarded in accordance with R.S. 38:2212 et seq.

7. Projects which are funded by this program shall begin in the fiscal year that the appropriation is made. Execution of an agreement with the department and receipt of preliminary plans by the department shall indicate that the project has begun. These preliminary construction plans differ from the plans submitted in the application in that they are more advanced.

8. The Port of New Orleans is prohibited from participating in the port priority program for five consecutive years beginning the first fiscal year that the program is funded.

D. Auditing Funds. Funds shall be audited biannually by legislative auditor or certified public accountant in accordance with R.S. 24:513(A) and distributed in accordance with R.S. 24:516(A). The audit shall include an investigation of any failure to comply with the recommendations of the department in planning, design, and construction of the port project. Port authorities shall certify annually that the funds made available have been expended according to law.

E. Misuse of Funds. The legislative auditor shall report any misuse of funds to the legislative audit advisory council. The council shall determine if in fact funds have been misused. If funds have been misused, the council will instruct the state treasurer to suspend the distribution of funds. The council shall also advise the local district attorney of the misuse. The district attorney will take appropriate actions.

[1]Port and Waterways Institute, Louisiana Statewide Ports Assessment, 2 vols., (Baton Rouge: Louisiana State University, 1986), 11, 88.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 16:695 (August 1990), amended LR 17:274 (March 1991), LR 18:749 (July 1992).

§2103. Definitions

Committee Joint Legislative Committee on Transportation, Highways and Public Works.

Council Legislative Audit Advisory Council.

Deep Draft Port a port capable of accommodating vessels of at least 25 feet of draft and of engaging in foreign commerce.

Department the Louisiana Department of Transportation and Development.

Joint Legislative Committee see *Committee*.

Port a harbor town or city where ships may take on or discharge cargo.

Port Authority the governing body of any port area or port, harbor, and terminal district.

Procedural Manual a manual entitled, Louisiana Port Construction and Development Priority Program Procedural Manual for Funded Projects, which is used to implement projects funded by the program.

Program Louisiana Port Construction and Development Priority Program.

Project that activity that derives benefits to the state after an investment of program and port funds. The port funds may include federal monies.

Project Agreement the agreement between the department and port authority that states the authorities and responsibilities of each party in implementing a project that is funded in part by the Louisiana Port Construction and Development Program. The format is as shown in the procedural manual.

Shallow Draft Port a port that is not capable of accommodating vessels of 25 feet of draft or is not engaged in foreign commerce.

Total Project that activity that derives benefits to the state after an investment of program, port, and other public and private funds.

Transportation Trust Fund a fund created by a constitutional amendment passed by the voters on October 7, 1989 which dedicated $16 of the gasoline/motor fuel tax to construction and maintenance of state and federal highways and bridges, statewide flood control, ports, airports, transit, state police for traffic control, and parish roads.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 16:695 (August 1990), amended LR 18:750 (July 1992).

§2105. Program Procedures

A. Application. Any Louisiana port authority may submit an application for funding to the department except as provided in R.S. 34:3456. Applications shall be submitted between October 1 and November 1 for consideration in the following fiscal year. The application shall include a description of the project, demonstration of immediate need, benefits to be derived, preliminary design, cost estimate, and a description of the project area.

B. Review and Evaluation of Applications. The Louisiana Department of Transportation and Development shall review the applications. Applications shall not be subjected to a formal review and evaluation until the information required in the application has been submitted. Applications shall also be reviewed by any appropriate state agencies.

C. List of Recommended Projects. After receipt by the department, the applications shall be reviewed. Only applications which are complete shall be evaluated and prioritized. The department shall then prepare a recommended list of projects in priority order and submit the list to the joint legislative committee. Only projects that have a benefit cost ratio of one or more will be recommended. Multi-year projects that have been funded by the program shall receive higher priority than new projects.

D. Public Hearings. The joint legislative committee shall hold a public hearing or hearings to obtain public input regarding the recommended list of projects. Before each hearing, the department shall publish the appropriate official notice in proper journals.

E. Construction Program. After reviewing the public input, the joint legislative committee shall recommend to the legislature a construction program prepared by the department from the list of recommended projects. Projects recommended but not funded will be included in the list of recommended projects for the following year. If a recommended project remains unfunded after four years and the port authority still desires to proceed with the project, a new application will be required.

F. Project Agreement. Prior to the commencement of any work, the port authority shall enter into a project agreement with the department; whereby, the port authority agrees to provide at least 25 percent local match for the costs of constructing the project; agrees to furnish all lands, easements, rights-of-way, and spoil disposal areas necessary to construct and maintain the project without cost to the state, unless said items are critical to the project; and agrees to assume all maintenance and operations costs and future alterations as may be required without cost to the state and agrees to implement the project in accordance with the procedural manual. The port authority shall not use state funds from any source in providing its local match.

G. Project Implementation. Upon executing the project agreement for funding with the department, the port authority shall ensure that the Louisiana Port Construction and Development Priority Program Procedural Manual for Funded Projects is adhered to in the preparation of the plans and specifications, advertising for, bids, awarding of a contract, and construction observation. This manual will be made available to all port authorities designated to receive program funds.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 16:695 (August 1990), amended LR 18:751 (July 1992).

§2107. Program Requirements

A. General Requirements. In order for the department to be able to adequately assess the merits of the proposed project, applications must be complete and verifiable. The responsibility to provide complete, accurate, and documented data on each project, as defined herein, rests solely with the port authority submitting the applications for funding.

B. Specific Requirements

1. Project and Total Project

a. For purposes of this program, a project is that activity that derives benefits to the state after an investment of program and port funds. It may be composed of components that, all together, require up to two consecutive years to implement. Project refers to that portion of the total project for which the port is seeking program funds from the department. The amount of program funds required is used in calculating the benefit cost ratio which is used for ranking projects.

b. The total project is that activity that derives benefits to the state after an investment of program, port, and other public and private funds and its cost is used to determine if the requirement for a minimum benefit cost ratio of one is met. The total project includes all improvements that are necessary by both the public and private sector in order to derive the benefits identified in the application.

2. Local Match

a. Each port authority shall provide a local match equal to at least 25 percent of the cost of the project. Funds obtained from federal sources may be used for the local

match. No state funds can be used as local matching funds. Prior to advertisement for bids, verifiable evidence shall be submitted indicating that all nonprogram funds are in hand or are readily available.

b. A port authority may provide a local match greater than 25 percent. Since the state's investment is the cost in calculating the benefit-cost (B/C) ratio, the B/C will be greater if the port elects to provide a larger local match. A higher B/C will result in a higher evaluation score.

3. Land Acquisition. Land acquisition shall be eligible for funding only when in the judgment of the department it is an integral component of a project and critical to its development. An application must be developed which presents costs, benefits, and other data for the total project.

4. Port-Owned or Public Land

a. Port improvements funded through the Port Construction and Development Priority Program shall be built, installed, and/or implemented only on port-owned lands or public lands. Public lands are lands owned by public organizations which are authorized by law to perform governmental functions.

b. Prior to advertisement for bids, port authorities shall submit verifiable evidence that they either own the land or they have entered into an agreement with the public body that owns the land.

5. Number of Applications. An application shall be prepared for each integral project. If a port authority submits more than one application in a given year, the port authority shall prioritize them. The top priority project shall be labeled "Priority One" on the title sheet of the application. The next priority project shall be labeled "Priority Two", etc. Due to time constraints and available personnel to evaluate the applications, the department may restrict the evaluation to only the top two priority projects per port in a given application year.

6. Types of Projects. The types of projects that shall be funded by the program shall be limited to the construction, improvement, capital facility rehabilitation, and expansion of publicly-owned port facilities including intermodal facilities and maritime-related industrial park infrastructure development, such as wharves, cargo handling capital equipment, utilities, railroads, primary access road, and buildings which can be shown to be integral components of any port project submitted for funding.

7. Navigation Projects. Funding from the program will not be integrated with or used for the state sponsorship (state matching basis for federal appropriation) for new construction and/or maintenance dredging on federally authorized navigable waterways.

8. Project Commencement. At the application stage, projects must be developed sufficiently to allow them to commence within the fiscal year that they are funded. Execution of the project agreement with the department and receipt of preliminary plans by the department shall constitute commencement. Preliminary plans at this stage must be more advanced than plans submitted with the application. Projects that do not commence within the fiscal year that they are funded will result in forfeiture of program funds.

9. Forfeiture of Program Funds

a. If a port authority does not execute the project agreement furnished by the department and return it to the department within 90 days of being mailed to the port authority, then the state funds authorized from the Port Construction and Development Priority Program shall be forfeited.

b. If a project is not commenced within the fiscal year that is it funded, then the state funds authorized by the program shall be forfeited. A project is considered to have commenced upon delivering the executed project agreement and preliminary plans to the department. Preliminary plans submitted with the application shall not meet this requirement.

c. Advertising a project for bids to construct the project prior to obtaining written notice from the department shall result in forfeiture of program funds.

10. Selling Lands, Facilities, etc. Should a port authority sell or dispose of any lands, facilities, etc. that have been funded in part by the Port Construction and Development Priority Program, then the port authority shall reimburse the department for the percentage of project life remaining at the time of the sale. The project life shall be 20 years for structures and 10 years for equipment unless a different period of time is specified in the evaluation of the project.

11. Maintenance. The port authority is responsible for maintenance and will structure their revenue rates to adequately fund maintenance cost.

12. Discount Rate. The discount rate used in the evaluation process shall be 3.70 percent. This rate is derived from the average interest rate paid on 30-year bonds during the period 1987-1990 (7.70 percent) by the Louisiana State Bond Commission less the 1988-1990 average inflation rate (4.0 percent) as indicated by the Consumer Price Index.

13. Minimum Return on State's Investment. The minimum rate of return for the state's investment shall be 3.70 percent. This evaluation shall be based on no growth. In calculating the rate of return for this criteria, the cost shall be the total program funds invested. The benefits for this calculation shall be the port revenues less expenses associated with the proposed project. Expenses shall include maintenance costs. Salvage value or project life remaining after then 10-year evaluation period shall be indicated as a benefit (see *salvage value* in §2111.A.5.b).

14. Benefit Cost Ratio. Only projects that have a benefit-cost ratio equal to one or more shall be funded by the Port Construction and Development Priority Program. In calculating the B/C for this criteria, the cost is the total investment, both public and private, required to implement the total project and derive the benefits.

15. Monitoring

a. For three years after the completion of a project funded by the Port Construction and Development Priority Program, the port authority shall submit to the department a report comparing the actual benefits derived with the estimated benefits associated with the project. This report will be submitted at the end of the fiscal year. The source of data for the actual benefits shall be stated. Significant deviations will be noted and proposed corrective actions, if needed, will be indicated.

b. Port authorities that do not comply with this provision will be ineligible to participate in the program for three years.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:751 (July 1992).

§2109. Application

A. General Instructions. Applications may be submitted to the department between October 1 and November 1 to be considered for funding the following fiscal year, except as provided in R.S. 34:3456. The application shall be submitted in the format as shown and as follows.

Number of copies:	Original and three copies
Time:	Between October 1 and November 1 but before 4 p.m. November 1
Mailed to:	Louisiana Port Construction and Development Priority Program Louisiana Department of Transportation and Development Box 94245 Baton Rouge, LA 70804-9245
Delivered to:	Louisiana Port Construction and Development Priority Program Louisiana Department of Transportation and Development 1201 Capital Access Road, Room 401 Baton Rouge, LA

B. Contents. All pages in the application shall be numbered and the application shall be bound. Applications shall be submitted in the following format.

Application Format

All applications submitted for funding through the Port Construction and Development Priority Program shall be prepared in accordance with the following format:

1. Title Page
   a. Parish
   b. Project Name
   c. Priority
   d. Application Title
   e. Name of Port Authority
   f. Legislative Delegation
   g. Preparer
   h. Date
2. Description of Proposed Project
   a. Nature and Goals
   b. Funds Requested
   c. Alternatives
   d. Adequacy of Components
3. Demonstration of Immediate Need for Project
   a. Cargo History
   b. Market Analyses
      i. Extrapolation from Past Trends
      ii. Diverted Cargo
      iii. Generated Cargo
      iv. Origins/Destinations
      v. Cargo Handling Revenue
   c. Industrial Development
   d. Prospective Industrial Tenants
   e. Letters of Commitment
   f. Other Factors
4. Preliminary Design, Plans and Cost Estimate
   a. Design Criteria
   b. Design Calculations
   c. Preliminary Construction Plans
   d. Cost Estimate
   e. Progress Schedule
5. Determination of Benefits to the State
   a. Revenues and Expenses
   b. Number of Jobs
   c. Payroll Benefits
   d. Spin-off Benefits of Payroll
   e. Shipping Costs
   f. Other Benefits
   g. Benefits-Costs Tabulation
6. Description of Project Area
7. Impacts of Implementing Proposed Project
8. Master Plan for Port
9. Other Information
   a. Funding Sources
   b. Local Share
   c. Multi-Year Projects
   d. Permits

Attachments

A. Resolution
B. Design Criteria
C. Design Calculations
D. Engineering Report
E. Layout of Existing and Proposed Facilities
F. Preliminary Construction Plans
G. Financial Statements
H. Cargo Tonnage
I. Port's Master Plan
J. Commenting Agencies
K. Other Attachments

1. Title Page. The title page of the application shall be as follows.

a. Parish. In the upper right hand corner of the title page indicate the name of the parish in which the project is proposed to be built.

b. Project Name. Directly below the parish name, enter the project name. The name should have some identifying characteristic of the work that is proposed and should not be an exact duplicate of a project name used in a previous year. If the application is for an extension of a previous project, then the same project name may be used if additional information is incorporated into the name such as Phase 1, Phase 11, etc.

c. Priority. If more than one application is submitted, then indicate the priority directly under the parish. The top priority project should be indicated as "Priority One".

d. Application Title. Approximately one-third from the top of the page and centered place the title, "Application to Louisiana Port Construction and Development Priority Program".

e. Name of Port Authority. In the middle of the page from the top indicate the legal name of the port authority, address, telephone and fax numbers, and authorized representative.

f. Legislative Delegation. In the lower one-third of the page, provide the names and district numbers of the senators and representatives within whose districts the project is proposed.

g. Preparer. If different from the authorized representative, provide the name, address, telephone, and fax number of the person who prepared the application.

h. Date. Centered at the bottom of the page, state the month and year in which the application was submitted.

2. Description of Proposed Project

a. Nature and Goals. Provide a narrative description of the proposed project and the total project. The descriptions are to be in sufficient detail to clearly convey the purpose, design, and major components of the project and the total project.

b. Funds Requested. Indicate the amount of funds needed for the project and the total project. Also show the expected funding sources such as programs, port authority, federal, and other. If the project will be implemented in two years, the amounts needed for each year shall be shown.

c. Alternatives. Discuss alternatives, and state the reason they were not selected. At least one alternative solution shall be discussed and developed in sufficient detail to ensure that the proposed project was selected as the result of an objective analysis. Explain why the proposed project was selected over the alternatives.

d. Adequacy of Components. New port projects often create operational bottlenecks in supporting infrastructure such as access roads, warehouses, and yard spaces. Identify all the components necessary to derive the benefits stated. Go from a logical terminus, through the port to another logical terminus. For example, the discussion of the necessary project components may begin in the gulf, go through the navigational channels to the port, unload at the port, reload at the port onto a railroad car, and from the rail spur to a main line. A trucking operation may terminate at a state highway that is capable of handling the added traffic satisfactorily. Indicate whether these components are existing or proposed. For all existing components, discuss the adequacy of the components. For all proposed components, indicate what is proposed, by whom, when, and what is the estimated cost. Verifying documentation may be included in §2109.B.

3. Demonstration of Immediate Need for Project. Provide a demonstration of the immediate need for the project and supply supporting documentation. This portion of the application is extremely important. Most of the information provided in this section are forecasts and estimates. Therefore, sufficient attention should be given to adequately communicate and document the need for the proposed port project through detailed market analyses and commitments by port users to utilize the expanded project facilities.

a. Cargo History. Indicate the total cargo and revenue that was handled by the port in the last five years. List the cargo by type (bulk, break-bulk, neo-bulk, containers) and volumes. Analyze trends of cargo growth and the underlying reasons. Establish the level of utilization of existing facilities in relation to cargo volumes handled. If congestion was experienced, identify facility bottlenecks and describe how they were overcome. Also, indicate the sources of all data. Provide a summary in this section of the application. A detailed list of cargo history shall be provided at Attachment H (see §2109.B).

b. Market Analyses. Forecast the cargo which will use the project for the next 10 years. List the type of cargo and volumes expected, along with the market analysis and estimate of the market share. Cargo forecasts and market analyses have to be complete with detailed underlying assumptions and justifications. If cargo forecasts exceed historical trends, provide justification in terms of significant economic and technological developments occurring in the ports service area. If the port facility expansion is in response to increased demand from new industries locating in the area, these location decisions have to be substantiated by comparative cost analyses. As port projects cover diverse types of investments, it is difficult to provide exact industry norms to cover all situations. Some general guidelines on cargo forecasts are provided in this section. These must be considered as general industry norms. Variation from these norms must be analyzed and justified.

i. Extrapolation from Past Trends. The simplest method of cargo forecasting is to extrapolate from past trends, making whatever adjustments that may be necessary to take into account change that are likely to modify these trends. National projections for waterborne commerce, by major commodity types, are shown below. These growth estimates are to be used to forecast traffic growth unless

adequate justification is provided to support any deviation. If a particular commodity is not included in Figure 1 then use the total waterborne commerce trend.

National Projections of Waterborne Traffic by Major Commodities to Year 2000			
Commodity Group	Growth Estimate (Percent/Year)		
	High	Medium	Low
Total Waterborne Commerce	2.00	1.60	0.90
Coal		1.80	
Petroleum		1.40	
Agricultural Chemicals	3.10	1.50 - 3.00	1.90
Industrial Chemicals	3.50	2.80	1.70
Metallic Ores	2.60	2.20	1.80
Nonmetallic Minerals	0.50 - 1.50	0.50	(1.60)
Stone and Clay	2.60	2.20	1.80
Fish Products	0.75	(1.10)	(2.40)
Farm Products	3.10	2.40 - 2.90	0.90
Lumber	2.30	0.30 - 1.70	0.60 - 0.80

Figure 1. National Projections of Waterborne Traffic, by Major Commoditites, to Year 2000 Source: *Status of the Inland Waterways*, U.S. Army Corps of Engineers, Institute of Water Resources, Ft. Belvoir, Viriginia, July 1987. Note: Negative Values are in parentheses

ii. Diverted Cargo. Cargo may be diverted to a port facility either from other modes of transportation or from other routes. As cargo diversion can occur due to cost differentials in competing modes or routes, comparative cost studies must be presented to justify these cargo flows. If cargo diversion occurs due to establishment of new industries at the waterfront, these location decisions have to be analyzed and justified.

iii. Generated Cargo. New industrial and agricultural developments in an area can increase output and these developments may translate into new traffic. In such cases, these sources must be identified and new cargo must be analyzed in terms of volumes, origins and destinations. The total traffic generated must be distributed to different transport modes based on cost considerations.

iv. Origins/Destinations. Identify the major origins, routes, and destinations of the forecasted cargos which will use the project. Indicate what route the goods would move if the project is not built. Would the cargo be routed to another facility at the port, via another port in Louisiana, via a port outside of Louisiana, or via a non-water transport means?

c. Cargo Handling Revenue. Once the new cargo has been forecast, the revenue to be derived may be estimated. Use existing port tariff rates to make these estimates.

d. Industrial Development. What new industrial development would result from the project; without the project, where would this development otherwise occur?

e. Prospective Industrial Tenants. List prospective industrial tenants, indicate if confidential. If tenants are to be located at the waterfront, sufficient reasons have to be provided that such a location is critical to their operations.

f. Letters of Commitment. Include letters of commitment from users, indicate if confidential. Discuss whether commitments have already been made in terms of investments and planning and what other assurances are available to the port that the commitments will be met. If the viability of the project depends on these commitments, sensitivity analyses should be conducted to analyze the alternatives available to the port in the event the commitments are not met by the port users.

g. Other Factors. Discuss other factors that may justify the proposed project.

4. Preliminary Design, Plans and Cost Estimate. To further describe the proposed port improvement, provide a brief discussion of the design, preliminary plans, and cost estimate. The level of detail of the design, plans, and cost estimate should be adequate to allow developing final plans in approximately six to eight months since a construction contract should be awarded within one year of project funding.

a. Design Criteria. The design criteria needed to obtain the stated benefits are to be submitted as Attachment B (see §2109.B).

b. Design Calculations. Design calculations are to be submitted as Attachment C (see §2109.B).

c. Preliminary Construction Plans. The plans shall be included as Attachment F (see §2109.B) The level of detail shall be sufficient to conceptually convey the project components and requirements.

d. Cost Estimate. The detailed cost estimate for the project shall identify construction costs, land, mitigation, engineering, legal, and administration. Recurring maintenance costs shall also be estimated and included in this section. The estimate should detail the costs of equipment and construction activities to at least the level to allow verification of the estimate. For each component provide the description, quantity, unit of measure and unit price. Avoid the use of lump sum, where possible. In addition to the above, estimates of related investments made by the industrial tenants also have to be included to take account of the cost of the total project. If, for example, an industrial development is anticipated consequent to the project and benefits are claimed, associated costs should also be included as total project costs.

e. Progress Schedule. Provide an anticipated progress schedule for plan preparation and construction of the project, by phases if applicable. Indicate the beginning and ending dates for both.

5. Determination of Benefits to the State

a. General. Benefits from the proposed project will be evaluated from the state's point of view, which includes the taxpayer's point of view and the port's point of view. All of the benefit will not be derived until the investment for the total project has been made and all of the necessary components are adequate. Estimating these benefits is a key element in the application process. Sufficient attention should be given to substantiate procedures adopted in quantifying benefits and in providing supporting documents. Overall, benefit estimates should be logical, verifiable, and

based on sound judgment and acceptable industry norms. Claimed benefits will be adjusted to conform to industry norms unless adequate justification is provided. In order to make a proper allocation of funds among the requests, it is necessary to have a clear understanding of each project's expected net benefits to the state. The term *net benefits* means the difference in the benefits to be derived "with the project" and those to be derived "without the project". For example, when port improvements are implemented, there is usually a higher level of facility costs, mostly for construction. This is offset by the benefits including a reduced level of other costs (vessel operating costs, cargo handling costs, maintenance costs, etc.). There may be an increase in economic activities, improved (or worsened) environmental consequence, etc. All of these benefits are relative, i.e., they are based on the spread between what would happen with the new project vs. what would happen without the new project. In other words, to determine the benefits, it is necessary to evaluate the cargo flow projection, transportation costs savings, impact on other Louisiana ports, etc., without the project as well as with the project. Only then can the costs and gains under both scenarios be compared. The difference is the net benefits to be derived.

b. Revenues and Expenses. Estimate the port revenues for both the with and without project conditions. Also estimate the operating expenses with and without the proposed project (e.g., labor, utilities, etc.). These estimates have to be based on present and future port tariff rates or conform to industry norms. Only projects that will realize a minimum rate of return of 3.70 percent as net port revenue for the state's investment will be funded by the program.

c. Number of Jobs. Indicate the number of permanent jobs that would be created and/or existing jobs saved from implementing the project. How many of these jobs are port related and how many are industrial jobs, what is the total payroll for each; without the project, where would these jobs otherwise be created? Do not include temporary jobs created by construction activities. The estimate of number of new jobs created shall conform to industry norms such as capital investment/worker and volume of cargo handled/worker and number of employees per firm. If jobs are displaced elsewhere in the state, these jobs shall be subtracted from the jobs created or saved by the project. Figure 2 below indicates the employment profile for major port related industries in Louisiana. The average number of employees per firm provides the typical characteristics of a firm. It should be noted that a large percentage of firms employ less than 50 workers. Therefore, employment estimates must be justified on a case-by-case basis analyzing the nature of operations of the prospective industrial tenants. In general, it is likely that ports in rural areas with less populations support smaller firms and the few large firms are supported by large metropolitan areas. There may be exceptions to this general rule.

Classification of Commercial Firms in Louisiana By Employment Size											
Industry Category	Number of Employees	Number of Firms	Average Employee Per Firm	Number of Firms by Employee Size							
				1 - 4	5 - 9	10 - 19	20 - 49	50 - 99	100 - 249	250 - 499	500 - 999	1000+
Agricultural Services, Forestry and Fishing	5,093	919	6	593	215	77	27	5	1	1	0	0
Mining	55,505	1,731	32	753	273	254	234	96	75	36	7	3
Manufacturing	163,435	3,664	45	1,254	677	616	537	259	200	74	32	15
Lumber and Wood Products	11,400	653	17	276	157	116	64	14	19	7	0	0
Paper and Allied Products	10,820	56	193	4	3	7	6	11	11	7	6	1
Chemical and Allied Products	23,840	235	101	58	28	37	32	29	23	17	7	4
Petroleum and Coal Products	9,793	57	172	13	4	5	12	4	9	4	4	2
Stone, Clay and Glass Products	5,116	211	24	53	40	53	44	15	5	0	1	0
Fabricated Metal Products	10,675	300	36	99	54	59	50	18	13	4	2	1
Trucking and Warehousing	19,148	1,309	15	668	230	187	153	49	17	4	0	0
Water Transportation	20,520	856	24	360	174	132	99	45	35	9	1	1
Water Transportation Services	14,276	665	21	262	151	109	78	35	24	5	1	0
Marine Cargo Handling	6,031	104	58	23	21	19	15	8	12	5	1	0
Towing and Tugboat	4,862	292	17	96	76	55	44	15	6	0	0	0
Marinas	665	66	10	35	16	9	3	2	1	0	0	0
Other	2,718	203	13	108	38	26	16	10	5	0	0	0
Transportation Services	5,401	538	10	294	152	52	29	6	4	0	0	1
Freight Tranportation	3,011	199	15	100	55	25	14	3	1	0	0	1
Railroad Car Rental	17	5	3	4	1	0	0	0	0	0	0	0
Miscellaneous	754	48	18	18	12	8	6	3	1	0	0	0

Figure 2. Classification of Commercial Firms in Louisiana By Employment Size. Source: *County Business Patterns, 1988 Louisiana,* U.S. Department of Commerce, Bureau of the Census, Oct. 1990

d. Payroll Benefits. Standard payroll estimates provided in Figure 3 below shall be used in estimating payroll benefits in order to equitably evaluate applications for funding through the program. If job benefits are assumed to continue unchanged into the future, then an implication is made that those individuals employed as a result of the project would not otherwise find employment. This is not reasonable, as employment will ebb and flow over time. As true net benefits from employment diminish overtime, the payroll benefits resulting from the project have to be allowed to decay in a linear fashion annually, reaching zero at the end of 10 years.

Average Annual Earnings by Category for Port Related Industries	
Work Category	**Average Annual Earnings**
Managerial	$40,000
Supervisory, Stevedore and Skilled Workers	25,000
Factory Workers	20,000
Clerical, Unskilled and Misc.	15,000

Figure 3. Average Annual Earnings by Category for Port Related Industries

e. Spin-Off Benefits of Payroll. New payroll generated by the project results in spin-off benefits in the local economy. In order to calculate the spin-off benefits, assume that they are equal to the payroll benefits directly created or maintained by the project. If a project will have $100,000 payroll benefits in a year, then the spin-off benefits also equal $100,000. Spin-off benefits will also decay in a linear fashion annually, reaching zero at the end of 10 years.

f. Shipping Costs. If the proposed project will alter shipping costs, identify these costs with and without the project. Cost estimates should conform to general industry norms.

g. Other Benefits. Identify any other benefits that would result from the project.

h. Benefits-Costs Tabulation. Tabulate the project's benefits and costs over a 10-year period. Remember that all the benefits will not be derived until all of the components that are identified in "Adequacy of Components" are implemented and are adequate.

6. Description of Project Area. Provide a narrative description of the project area. The description shall include the location of the existing port, navigable waterways to the port, rail and highway access, location of neighboring ports competing for cargo, unemployment rate, land use adjacent to the port, and soil conditions in and around the port. Identify all major commodities which are handled by competing ports.

7. Impacts of Implementing Proposed Project

a. An assessment of the impacts associated with the implementation of the proposed project shall be submitted. Usually the economic, environmental, and other impacts shall be identified. A detailed environmental assessment is not required by this program but may be required to obtain certain permits.

b. The economic impacts may be indicated by the number of permanent jobs created or saved and the annual payroll resulting from the proposed port improvement. This information is reported in §2109.B.5, "Determination of Benefits to the State."

c. The environmental impacts shall be identified as to the effects on the following:

i. water quality;

ii. habitat modification;

iii. fish and wildlife resources;

iv. cultural, historical, and archeological features.

d. Any other impact(s) shall also be identified. The impact of the proposed project on other ports in the state, (e.g., diversion of cargoes or industrial activities, etc., from other state's ports) shall be stated.

e. The assessment is to indicate whether the impacts are short-term or long-term, direct or indirect, and adverse or beneficial. Applicants may seek comments from appropriate state and federal agencies. A list of state and federal agencies and their mailing addresses follows.

State and Federal Agencies

Mr. Bradely E. Spicer, Asst Commissioner
Dept. of Agriculture and Forestry
Office of Soil and Water Conservation
Box 44455
Baton Rouge, LA 70804

Mr. Leslie R Tassin
State Historic Preservation Officer
Dept. of Culture, Recreation and Tourism
Office of Cultural Development
Box 44247
Baton Rouge, LA 70804

Mr. Marion T Fannaly
Dept. of Environmental Quality
Box 44091
Baton Rouge, LA 70804

Mr. Terry W. Howey
Director Coastal Management Division
Dept. of Natural Resources
Box 44487
Baton Rouge, LA 70804-4487

Mr. P.J. Frederick
DOTD Maintenance Engineer Administrator
Dept. of Transportation and Development
Box 94245
Baton Rouge, LA 70804-9245

Secretary
Dept. of Wildlife and Fisheries
Box 98000
Baton Rouge, LA 70898

U.S. Army Corps of Engineers
New Orleans District
Box 60267
New Orleans, LA 70160-0267 **OR**

U. S Army Corps of Engineers
Vicksburg District
Box 60
Vicksburg, MS 39180

Mr. Harry Hawthorne
State Conservation Engineer
Soil Conservation Service
3737 Government Street
Alexandria, LA 71302

8. Master Plan for Port. Discuss how the proposed project complies with the port's master plan or why it does not. Indicate when the master plan was adopted by the port authority. Copies of the master plan are to be submitted with the application as Attachment I (see §2109.B).

9. Other Information

a. Funding Sources. Identify all sources of funding, including the local share. Indicate if an application for other funds has been submitted and if a commitment has been received.

b. Local Share. Is your 25 percent local share available? Include as Attachment A (see §2109.B), a certified copy of a resolution adopted by the port similar to the draft resolution (see Resolution Form below).

Resolution Form

RESOLUTION

A Resolution authorizing the (port authority) to prepare and submit an application to the Louisiana Port Construction and Development Priority Program for assistance in the implementation of a port improvement project; providing for the necessary documentation of the need for the port improvement; and providing for other matters in connection therewith.

WHEREAS, (port authority) has a need for port improvements; and

WHEREAS, (port authority) desires to apply for state matching funds pursuant to Chapter 47 of Title 34 of the Louisiana Revised Statutes of 1950, as amended, to implement a project to improve its port operation and the (port authority) is fully aware of its obligations under said statute; and

WHEREAS, (port authority) is a political body duly organized and existing under the laws of the State of Louisiana and is eligible to apply for funds under said Statute,

NOW, THEREFORE, BE IT RESOLVED by the (port authority) as follows:

Section 1. That (port authority) acknowledges that a formal application will be prepared and submitted to the Louisiana Port Construction and Development Priority Program.

Section 2. That at the appropriate time and upon approval of funding assistance and prior to commencement of work on the project (port authority) agrees to execute a project agreement and a statement of sponsorship pursuant to the statute.

Section 3. That (authorized representative) (title) is hereby designated Authorized Representative for (port authority) to effect the preparation of an application to the Louisiana Port Construction and Development Priority Program for funding assistance or a port improvement project.

Section 4. That said authorized representative's responsibilities shall pertain to technical matters only and shall not include any official act on behalf of the (port authority).

This _____ day of _____, 20____

_____ _____
Secretary Presiding Officer

_____
(Port Authority)

c. Multi-Year Projects. If the project will require more than one year to complete, summarize the anticipated investment schedule required for full completion of the proposed project.

d. Permits. List all necessary permits, indicate the status of permit acquisition, and indicate project compliance with permit requirements.

C. Attachments

1. Resolution. Provide certified copies of the resolution adopted by the port authority similar to the sample resolution in §2109.B.9.b indicating that the port authority is knowledgeable and is agreeable to its duties and responsibilities in participating in the Port Development and Construction Priority Program and in particular has its local match.

2. Design Criteria. Include the design criteria necessary to properly design the project.

3. Design Calculations. Include the design calculations and soil investigations; the level of detail of the design should be sufficient to allow the award of a construction contract within the year of funding.

4. Engineering Report. Provide copies of the engineering report.

5. Layout of Existing and Proposed Facilities. Submit a layout of existing and proposed facilities.

6. Preliminary Construction Plans. Enclose preliminary construction plans in sufficient detail to allow the award of a construction contract within a year of funding.

7. Financial Statements. Provide financial statements for the last five years. The financial statements shall show assets, liabilities, profit and loss and include the accountant's letter transmitting the statement to the port authority and notes of explanation.

8. Cargo Tonnage. List the total amount of cargo by commodity for the port for the same periods covered by the financial statements. The commodity classification shall be the commodity classification for domestic waterborne commerce.

9. Port's Master Plan. The port's master plan is to be submitted with the application. If the port does not have a master plan then submit a layout of existing facilities and an explanation why the port does not have a master plan.

10. Commenting Agencies. Letters of comment from appropriate state and federal agencies responding to applicant's solicitation of views, if appropriate.

11. Other Attachments. Any other attachments that may be helpful in evaluating the proposed project may be included as other attachments.

Information Sources

Information and data that may be useful in estimating the costs and benefits and in completing the project application is available from a number of sources. Some of these sources are local records from engineers, marketing surveys conducted by private firms, local industry performance standards, and performance records of the port. Selected references from federal, state, and local agencies are listed and described below.

Louisiana Labor Market Information, Louisiana Department of Employment and Training, Baton Rouge, Louisiana. A monthly publication providing the following labor market information by parishes and by major metropolitan statistical areas (MSA) in Louisiana:

1. the Louisiana economic situation;

2. non-agricultural wage and salary employment;

3. average hours and earnings in manufacturing;

4. consumer price index;

5. employment and payroll trends.

Directory of Louisiana Manufacturers, Louisiana Department of Economic Development, Baton Rouge, Louisiana. Presents data on the following:

1. companies located in Louisiana and products manufactured;

2. companies employing more than 250 workers;

3. manufacturers of specific products in Louisiana by standard industrial classification (SIC) codes;

4. parent firms of companies.

U.S. Army Corps of Engineers, *Waterborne Commerce of the United States*, Part 1-5, Department of the Army, Water Resources Support Center, Fort Belvoir, Virginia. The data collected in this publication consists of vessel and cargo movement information reported to the Corps of Engineers by carriers engaged in commercial transportation of goods on the navigable waterways and international trade and also international trade data provided by the Bureau of the Census. Part 2 of this publication covers waterways and harbors in the Gulf Coast and Mississippi River System. Current issues of this publication can be obtained from the Commander, U.S. Army Engineers District, Box 60267, New Orleans, LA 70160-0267.

U.S. Army Corps of Engineers, Other Data Sources:

Public Domain Database: Contains aggregated information which depicts waterborne commodity movement between different regions and states sorted by origin, by destination, and by commodity. *Special Requests for Waterborne Commerce Statistics*: The Waterborne Commerce Statistics Center (WCSC) handles special requests for statistics on a case-by-case basis. These requests are characterized by the need for information not contained in the aforementioned Waterborne Commerce of the United States.

For more information on data sources available to the public from the U.S. Army Corps of Engineers, request a free copy of *Products and Services Available to the Public from Data Request Office*, Waterborne Commerce Statistics Center, U.S. Army Corps of Engineers, Box 61280, New Orleans, LA 70161-1280.

Port Import/Export Reporting Services (PIERS), Journal of Commerce, Inc., New York. PIERS data services provides detailed information on foreign trade, identifying commodity descriptions, origins and destinations, consignees and shippers, and tonnage of individual shipments. This data can be selected to suit individual specifications and obtained on tape, diskette, or hard copy reports.

County Business Patterns, 1988 Louisiana, U.S. Department of Commerce, Bureau of Commerce, Bureau of the Census, U.S. Government Printing Office, Washington, D.C., 1990. Provides information on industrial establishments, number of employees, payrolls by major groups of industries and by individual parishes.

1987 Census of Manufacturers Geographic Area Series Louisiana, U.S. Department of Commerce, Bureau of the Census, U.S. Government Printing Office, Washington, D.C., 1990. This publication provides the following aggregate data on commercial establishments by parishes and metropolitan areas:

1. number of companies, employment and payroll, production worker-hours, and worker-wages;

2. value of shipments, cost of materials, and value added;

3. beginning and end of year inventories;

4. expenditures, assets, rents, and purchased services.

Agricultural Statistics and Prices for Louisiana, Louisiana Agricultural Experiment Station, Louisiana State University Agricultural Center, Baton Rouge, Louisiana This publication provides data on agricultural product prices, average value of farm assets, acreage, and production.

Other Publications:

Moving America New Directions, New Opportunities, A Statement of National Transportation Policy Strategies for Action, U.S. Department of Transportation, Washington, D.C., February 1990.

National Transportation Strategic Planning Study, U.S. Department of Transportation, Washington, D.C., March 1990.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 16:695 (August 1990), amended LR 18:752 (July 1992)

§2111. Evaluation

A. Analysis. In determining a score to prioritize the request for funds, the following factors will be considered:

1. technical feasibility;

2. economic feasibility;

3. economic impacts;

4. environmental and other impacts;

5. port management.

a. Technical Feasibility. Indicators of technical feasibility are as follows:

i. completeness of project design;

ii. appropriate consideration of alternatives;

iii. compatibility of project to port's master plan;

iv. level of detail of preliminary plans (should be adequate to allow award of a construction contract within a year but still allow input from the department);

v. items of work as shown in the cost estimate are at a level of detail that may be readily verified.

b. Economic Feasibility. The primary factor in determining economic feasibility is the benefit cost ratio. For purposes of evaluation, the investment is the amount of program funds needed for the proposed port improvement project. If the project life exceeds the evaluation period, which is 10 years, then the benefit cost evaluation shall include the value of the project after the evaluation period. For evaluation purposes this value shall be considered the *salvage value*. Said value shall be determined using the straight line method for depreciation and shall be tabulated as a benefit. Other elements considered are as follows:

i. how rational and accurate are the projections:

ii. supporting documentation;

iii. risk factors.

c. Economic Impacts. The economic impacts are to be analyzed by the number of permanent jobs created or saved by the port improvement project after construction.

d. Environmental and Other Impacts. The parameters used to evaluate the environmental and other impacts are as follows:

i. no adverse impact on significant historical, archeological, geological features, or environmentally sensitive areas;

ii. no wetland loss;

iii. letters of support from legislative delegation;

iv. no letters of objection;

v. environmental mitigation measures such as bank stabilization and reduction of soil erosion.

e. Port Management. The primary factor in appraising the management of the port is the average return on investment for the last five years.

f. Location. The elements in assaying the port's location are as follows:

i. adequacy of the navigable waterways;

ii. suitable railroad access;

iii. ample highway facilities;

iv. location of nearest competing port.

g. Multi-Year Projects. Multi-year projects will receive priority over new projects after the initial year of funding, provided the years are consecutive and the implementation of the previous year components was in accordance with the Program Procedure Manual.

B. Methodology

1. The procedure for evaluating applications for funding is as follows.

a. Completeness. If application is complete, then proceed, otherwise advise applicant so that he may provide missing data for funding consideration next year.

b. Need. Is the need verifiable and real? If not then application will be rejected.

c. Location. The port must be located on an adequate navigable waterway, and upon completion of the proposed port improvement, have sufficient rail and/or highway access. Also, the port must be situated so that the improvement will not just shift trade from one Louisiana port to another. Noncompliance will result in rejection.

d. Return on Investment. Only projects that have a rate of return on investment of 3.70 percent or more for port revenue less expenses for the state's investment shall be funded by the program.

e. Benefit-Cost Ratio. Only projects that have a benefit-cost ratio equal to one or more shall be funded by the program. In calculating the B/C for this criteria, the cost shall be the total investment, both private and public, needed to implement the total project and derive the benefits. Note that the B/C used in the economic feasibility is based on program funds in lieu of total investment.

f. Technical Feasibility. (45 points) To proceed, the technical feasibility score must be 15 or more.

g. Economic Feasibility. (100 points) The project with the highest benefit-cost ratio receives the maximum points. The other projects are pro-rated. The cost used in this B/C calculation will be the amount of program funds required for the project.

h. Economic Impacts. (20 points) The project which creates or saves the most jobs per state investment receive the maximum points. The others are pro-rated.

i. Environmental Impacts. (15 points) A project with no adverse impacts would receive 10 points. To receive 15 points a project would have to enhance the environment.

j. Management of Port. (20 points) The port with the highest rate of return on investment for the last five years will receive 20 points. The others are pro-rated.

2. After the applications have been analyzed, they shall be graded by the department according to the point system above. The projects will then be prioritized by score.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:758 (July 1992).

§2113. Distribution of Funds

A. Program funds shall be distributed in accordance with the approved construction program. No more than 20 percent of the amount of funds appropriated shall go to one port. If all the projects on the recommended list of projects have been funded, then any remaining funds shall be redistributed on a pro-rata basis in priority order to the projects that have been limited by the 20 percent limitation.

B. Should the funding level be insufficient to fund all the projects that have been recommended, then the unfunded projects will recompete for funds the following year. An unfunded project may be included in the recommended list of projects up to four years without the port authority resubmitting.

AUTHORITY NOTE: Promulgated in accordance with R.S. 34:3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:759 (July 1992).

Chapter 23. Louisiana Port Construction and Development Priority Program Procedural Manual

§2301. Port Construction and Development Priority Program

A. The following procedures apply to projects which have been funded by the Port Construction and Development Priority Program.

1. The Port Construction and Development Priority Program was established by Act 452 of the 1989 Regular Session of the Louisiana Legislature. Its primary goal is

improving ports and harbors in the state. The Act provides for the development of a methodology for port project evaluation; reporting to the Joint Legislative Committee on Transportation, Highways and Public Works; presenting a recommended construction program to the legislature; and establishing the Transportation Trust Funds as the source of state funds.

2. Port authorities desiring to obtain funds from the Port Construction and Development Priority Program must submit an application to the Department of Transportation and Development in accordance with the program rules and regulations. The department evaluates the applications and submits a list of projects to the Joint Legislative Committee on Transportation, Highways and Public Works. The committee holds public hearings and submits a construction program to the legislature for funding.

3. The department will enter into an agreement with port authorities whose applications have been favorably reviewed and for whom funding has been made available in accordance with the prioritized list of projects. The agreement will identify the duties and responsibilities of each party and the procedures to follow to develop construction plans specifications, advertise and award a construction contract and administer the construction contract.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:870 (August 1992).

§2303. Engineering, Advertising and Contracting Procedures

A. Sponsor Responsible for Engineering. The State of Louisiana requires potential recipients of funds through the Department of Transportation and Development, Division of Flood Control and Water Management, Office of Project Support (Office) to follow certain procedures and to comply with applicable Louisiana Statutes and Office requirements during development, construction and operation of the project. The engineering, advertising and contracting procedures are divided into five phases and are as follows.

1. Engineering Phase

a. If the port authority or sponsor employs a consulting engineer, he shall follow port procedures which have been approved by the Department of Transportation and Development (DOTD) for evaluation of capabilities and selection of consultants.

b. If the sponsor elects to utilize its own staff for engineering services, the sponsor shall assign a Louisiana Registered Professional Engineer in responsible charge of the project.

c. Prior to advertising these projects for bids, certain design information must be submitted to the office for review. The scope of the project shall be as submitted in the approved application. Design information must comply with the office's requirements as follows.

i. Maps, plans, profile sheets and cross-section sheets submitted shall be consistent with accepted engineering practice. Each sheet of the construction plans and the title page of the specifications shall be stamped and signed by a Registered Professional Engineer licensed to practice in the State of Louisiana.

ii. Standard-sized sheets up to 24" x 36" shall be used for cross-section sheets, plans and profile sheets. Maps shall conform to appropriate scales.

iii. All maps, plans, profile sheets, cross-section sheets, and other exhibits shall include a standard title block that identifies the sponsor, the project (include state project number), preparer, name of the exhibit and number of sheets, if applicable.

iv. All elevations should reference mean sea level (National Geodetic Vertical Datum of 1929). The applicant is encouraged to make use of available information.

v. The design standards shall comply with the DOTD criteria. The format of the plans shall conform to the standards used by the DOTD in preparation of its contract plans for items of work of similar character, including plans for all drainage and utilities affected, as contained in the current edition of its "Hydraulic Manual", "General Guide for Bridge Plan Preparation", and "Roadway Plan Preparation Manual."

vi. Design surveys, right-of-way surveys and the preparation of rights-of-way maps shall be performed by the sponsor in accordance with the requirements specified in the current edition of the DOTD "Location and Survey Manual".

d. After preliminary plans have been developed to show all information required, four sets of prints shall be submitted to the Office for review and comments. If DOTD determines that a plan-in-hand inspection is required, one complete set of sepia reproducibles, if required, shall be submitted to DOTD for its use in scheduling a plan-in-hand field inspection with members of DOTD, the sponsor and/or its consulting engineer, at a time and date mutually agreed to in advance by all parties. Subsequent to the review and comments, the sponsor shall make such changes in the plans as necessary to reflect agreements reached at this stage and shall show existing and taking lines required for right-of-way.

e. Following the completion of preliminary plans, four complete sets of prints of the basic plans, dated and stamped "Advance Check Prints", together with four draft copies of the bid proposal and four copies of the project cost estimate shall be submitted to the office for review and comment.

f. Specifications for the project shall be in accordance with the Louisiana Standard Specifications, latest revision, as amended to comply with the office's current practices. Any exceptions to the use of these standard specifications shall have the prior approval of the office.

g. Upon completion of its review of the draft of the bid proposal, cost estimate, and advance check prints, the office will return one set to the sponsor with comments, if any, marked thereon, and the above documents will be reviewed to reflect agreements reached.

h. The sponsor may proceed with acquisition of right-of-way upon the completion of the office's review of the design and right-of-way plans.

2. Advertising Phase

a. Prior to Advertising. Prior to advertising for bids, the following must have been completed:

i. obtain written notice from the office that the pro posed project plans, specifications, and cost estimate comply with the requirements of the Port Construction and Development Priority Program and of the office;

ii. all required permits have been obtained and verification submitted to the office, if required;

iii. all rights-of-way, servitudes and/or easements have been obtained and verification submitted to the office, if required;

iv. agreements to relocate and/or adjust utilities have been obtained and verification submitted to the office, if required;

v. assurance of availability of required local matching funds;

vi. subsequent to the completion of the office's review of final plans, acquisition of all required rights-of-way, and agreements to relocate and/or adjust all utility conflicts, and securing the sponsor's portion of funds, the sponsor shall adopt a resolution certifying completion of the above and requesting authorization to advertise for bids. The resolution shall be similar to the draft resolution in below. The sponsor shall submit a certified copy of the adopted resolution to the office;

DRAFT RESOLUTION FOR ADVERTISING

State Project Number
Parish of
RESOLUTION
(Port Authority)

WHEREAS, (Port Authority) has submitted an application for funding of the (Project Name) port improvement project under the Port Construction and Development Priority Program; and

WHEREAS, the State's share of the project funds have been made available and the (Port Authority) has available its local matching share of the project funds in an amount of not less than twenty-five (25%) percent; and

WHEREAS, at the request of this (Port Authority), (Consulting Engineer) has prepared plans and specifications for said project, which plans and specifications are designated by State Project Number _____; and

WHEREAS, this (Port Authority) has reviewed the final plans, specifications and cost estimate and accepts them as submitted and the Department of Transportation and Development has reviewed the final plans, specifications, and cost estimate and has approved them inasmuch as they comply with the requirements of the Port Construction and Development Priority Program; and

WHEREAS, all necessary servitudes, rights-of-way, spoil disposal areas, rights of ingress and egress and the means thereof have been acquired by this (Port Authority), and the titles thereto are valid and indefeasible; and

WHEREAS, the (Port Authority) has obtained all necessary permits required for the construction of this project; and

WHEREAS, (Port Authority) has agreed to accomplish all necessary utilities, fence and other facilities relocations and alterations made necessary by this project; and

WHEREAS, the Official Journal for the (Port Authority) is (Official Journal), whose mailing address is (Mailing Address including City, State & Zipcode), and whose telephone number is (Area Code & Telephone Number); and

WHEREAS, this (Port Authority) desires to advertise for competitive bids, in accordance with LRS 38:2212, et seq., for the award of a contract in the name of the (Port Authority), and furnish engineering services during the progress of the work.

NOW, THEREFORE, BE IT RESOLVED by the (Port Authority), in (Regular) or (Special) session assembled on this _____ day of _____, 20__, that the Department of Transportation and Development be and hereby is requested to authorize the (Port Authority) to advertise for competitive bids in accordance with LRS 38:2212, et seq., for the award of a contract in the name of (Port Authority), covering the aforesaid improvements.

BE IT RESOLVED that the Department of Transportation and Development be and hereby is assured that all necessary servitudes, rights-of-way, rights of ingress and egress and the means thereof have been obtained by (Port Authority), and the titles thereto are valid and indefeasible and (Port Authority) expressly agrees to defend any action for the failure of any servitude, right-of-way, right of ingress or egress, and (Port Authority) does hereby assume complete responsibility for providing engineering services during construction and the maintenance and upkeep of the project after construction.

BE IT RESOLVED that the Department of Transportation and Development be and hereby is assured that all required permits have been obtained by (Port Authority).

BE IT RESOLVED that the Department of Transportation and Development be and hereby is assured that (Port Authority) has available its local matching funds in an amount not less than twenty-five (25%) percent of the total project cost to insure construction of this project.

BE IT RESOLVED that (Port Authority) will and hereby does assume complete responsibility for all utilities, fence, and other facilities relocations and alterations made necessary by this project.

BE IT RESOLVED THAT (Port Authority) does hereby save and hold harmless the Department of Transportation and Development against any loss or damage of any kind incident to or occasioned by activities undertaken in pursuance of this agreement and expressly agrees to defend any suit brought against the Department of Transportation & Development, and pay any judgement which may result from said suit as it relates to this project.

(Secretary) or (Clerk) (Chairman) or (President)

_____ _____

CERTIFICATE

I hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at a (Regular) or (Special) meeting of the (Port Authority) held on this _____ day of _____, 20 __, in which a quorum was present and voting and that the resolution adopted is still in effect and has not been rescinded or revoked.

Signed at _____ on the ___ day of _____, 20 __.

_____
(SECRETARY) or (CLERK)

vii. obtain written notice from the office for the sponsor to advertise for receipt of bids.

b. Advertising. The following procedure, in accordance with R.S. 38:2212 et seq. shall be followed.

i. The notice of advertisement shall be placed in the contracting agency's official journal within the parish in which the work is to be done.

ii. If the journal is a weekly paper, at least three advertisement notices must appear in the paper. These notices must appear once each week for three consecutive weeks, the first advertisement to appear at least 30 days prior to the bid opening date.

iii. If the journal is a daily paper, the advertisement must be published three times within 15 days, the first advertisement to appear at least 30 days prior to the bid opening date.

iv. Notice should also be placed in other papers and/or journals as needed to provide reasonable exposure of the proposed work, such as papers of large circulation, trade journals, and papers in the general locality of the work.

v. Addenda shall have prior review from the office that said addenda complies with the requirements of the Port Construction and Development Priority Program and the office. No addendum shall be issued within 72 hours prior to the advertised time for the bid opening, excluding Saturdays, Sundays, and legal holidays.

vi. Upon advertising for bids, the sponsor shall add DOTD, Project Support Section, to the bidder's list and forward three sets of plans and construction proposals marked "Not for Bid".

3. Review of Advertising Phase

a. Advertising Submittal. All advertising and bidding procedures for projects which are to be funded in part by State funds through the Port Construction and Development Priority Program, must be submitted to the Office for review prior to the award of the contract. The office will need the following:

i. copy of the letter to the publisher of the journal requesting publication of the notice of advertisement;

ii. certified proof of publication from the sponsor's official journal of the notice of advertisement in accordance with R.S. 38:2212, et seq. Said proof shall consist of a copy of the notice as published and an affidavit bearing the signature of an official of the publisher certifying the dates the notice was published. The affidavit shall be notarized. (The furnishing of the newspaper or newspaper clipping only, will not suffice as proof of publication);

iii. one copy of the bid proposal packet as submitted by each of the three lowest bidders;

iv. a legible copy of the bid tabulation of all bids received. Said tabulation shall include a column containing the engineer's estimate and shall be certified correct by an authorized official of the sponsor;

v. copy of engineer's recommendation;

vi. letter of intent from the sponsor indicating that they intend to award a contract to the lowest qualified bidder or to reject all bids. If the intent is to award a contract, the letter shall state the date bids were received, the name of the qualified bidder, and the contract amount.

b. Bid Proposals and Bonds. All bid proposals and bid bonds shall comply with R.S. 38:2214, 38:2215, 38:2218 and the following:

i. all entries on the bid proposal are to be in ink or typed;

ii. the bid proposal shall be properly signed by the bidder (individual owner; partner, or authorized officer of the corporation);

iii. if a bid bond is submitted in lieu of a cashier's or certified check, said bond shall be properly executed by an individual owner, partner; or authorized officer of the corporation submitting the bid be signed by a representative of an acceptable surety company, and countersigned by an authorized Louisiana resident agent. Said representative shall attach a valid power of attorney authorizing him to represent the surety company.

c. Review, Recommendations, and Resolutions. When the review of the above has been completed, the office will make its recommendations to the sponsor. After the office has made its recommendations, the sponsor shall adopt a resolution to either award a contract to the lowest qualified bidder (see draft resolution for awarding a contract below) or to reject all bids received (see Appendix C for draft resolution to reject all bids). The sponsor shall submit a certified copy of the adopted resolution to the office.

DRAFT RESOLUTION FOR AWARDING A CONTRACT

State Project Number _____

Parish of _____

Resolution

(Port Authority)

WHEREAS, the (Port Authority) has received bids on (Date of bid opening) on the (Project Name) port improvement project; and

WHEREAS, (Consulting Engineer) has recommended that award of contract be made to the lowest qualified bidder;

NOW, THEREFORE, BE IT RESOLVED by the (Port Authority) in (Regular) or (Special) session assembled on this _____ day of _____, 20 __, acting pursuant to the recommendation of (Consulting Engineer) that the (bid) or (base bid plus additive alternate 1), (etc.) submitted by (Contractor) in the amount of $(Contract Amount) be accepted and a contract be awarded to him.

BE IT FURTHER RESOLVED that (Chairman) or (President) be and is hereby authorized and empowered to enter into and execute a contract with (Contractor) for said work.

_____ _____

(Secretary) or (Clerk) (Chairman) or (President)

CERTIFICATE

I hereby certify that the above and foregoing is a true and correct copy of a resolution adopted at a (Regular) or (Special) meeting of the (Port Authority) held on this _____ day of _____, 20 __ in which a quorum was present and voting and that the resolution adopted is still in effect and has not been rescinded or revoked.

Signed at _____ on the _____ day of _____, 20 __

_____
(Secretary) or (Clerk)

4. Re-Advertisement Phase. If the sponsor rejects all the bids received but still desires to construct the project and obtain Program funds, then the following procedures shall be pursued. In all cases, the benefits to be derived from implementation of the project as stated in the application must still be obtained.

a. Submittals. The sponsor shall submit the following to the office for review and comment:

i. a certified copy of the resolution rejecting all bids received as stated in the Section entitled "Review, Recommendations, and Resolution" (see Appendix C for draft resolution to re-advertise);

ii. two sets of plans, specifications, and cost estimate which have been revised if required.

b. Re-Advertising Procedures. The procedures for re-advertising shall be the same as that stated in the "Advertising Phase" and the "Review of Advertising Phase", except that the resolution requesting authorization to re-advertise shall be reworded to reflect the re-advertisement, i.e., change the word "advertise" to "re-advertise" and furnish a certified copy of the adopted resolution to this office.

5. Contract Document Phase

a. Contract Documents. Contract documents shall be in accordance with R.S. 38:2216, 38:2217, 38:2219 to 38:2225. Prior to issuance of a work order or notice to proceed, two duplicate originals and three conforming copies of the contract documents must be submitted to the office for review, along with a certified copy of the award. The contract documents shall be bound and shall consist of the following:

i. fully executed contract, executed and witnessed in ink;

ii. if the contractor is a corporation, a certified copy of a resolution adopted by its board of directors authorizing an officer to bind the corporation, attest to by the corporation's secretary and signed in ink. Authorization of officer may be specific or general;

iii. performance and payment bond, fully executed, bearing original signatures in ink and the seal of the surety company affixed thereto, along with a power of attorney authorizing a representative of the surety company to execute the bond. Bonds must also be countersigned by a Louisiana resident agent;

iv. an affidavit by the contractor (individual owner, partner, officer of the corporation authorized to execute the contract) attesting that the public contract was not and will not be secured through employment, or payment of solicitor. Said affidavit shall be notarized;

v. construction proposal including project specifications;

vi. the duplicate originals shall contain original ink signatures for the contract, bond, power of attorney, affidavit and resolution, except the power of attorney for the bonds may be signed by facsimile if the surety agrees to be bound by such.

b. Written Notice. Upon obtaining written notice that the contract documents comply with the program's requirements and that of the office, the sponsor will have an original of the approved contract and performance bond recorded in the mortgage records of the parish or parishes where the work is to be performed. A copy of the recordation data shall be furnished to the office. The sponsor may proceed to issue the work order and furnish four copies to the office.

6. Construction and Payment Phase

a. Partial Payments. During construction, partial payments may be made monthly as follows:

i. inspection of the constructed work shall be directed by a Registered Professional Engineer, licensed to practice in Louisiana. Said engineer shall certify that the contractor is constructing the project with quality materials as specified, and using sound engineering principles. The engineer shall also certify the quantities and amount of the completed work that substantially complies with the plans and specifications;

ii. all construction inspection personnel utilized by the sponsor and/or the sponsor's consultant must meet the same qualifications required of DOTD construction personnel. When certification in a specific area is required, these personnel must meet the certification requirements of DOTD;

iii. all construction procedures must be in accordance with DOTD guidelines and policies established by the "Construction Manual", Chapter IX, the "Engineering Directives and Standards Manual", and any applicable memoranda. These documents will be made available to the consultant through the sponsor;

iv. all documentation of pay quantities must conform to the requirements of DOTD as outlined in the "Construction Manual", Chapter VI. This manual will be made available to the consultant through the sponsor;

v. all materials to be tested shall be sampled in accordance with a "Sampling Manual" prepared by the project engineer in cooperation with the DOTD District Laboratory engineer in accordance with DOTD's "Engineering Directive and Standard Manual" III.5.1.2. All material testing other than those tests normally run by project personnel on the job site shall be tested by DOTD's District or Central Laboratory or an approved testing laboratory;

vi. if a change order is required to increase or decrease the contract amount, it must be submitted to the office for review prior to authorizing the contractor to perform any work relating to the change order. The sponsor shall require that the contractor notifies his surety of any changes affecting the general scope of work or changes in the contract and the amount of the applicable bonds.

b. Project Completion. Upon completion of the project, the sponsor's engineer shall notify the DOTD Project Coordinator and the Project Support Chief to schedule a final inspection. The department shall inspect the project with the sponsor's engineer. Upon certification by the sponsor's engineer that the project is complete and upon acceptance by the sponsor, said acceptance will be recorded by the sponsor in the mortgage records of the parish or parishes where the work was performed.

c. Lien Certificate. Forty-five days after the recordation of the acceptance, the contractor; through the sponsor shall submit to the department a lien certificate from the recorder of mortgages of the parish or parishes in which the work was performed, certifying that there are no claims or liens recorded against the contractor or the contract. Final payments of all amounts due by the department will be made upon receipt of said certificate.

AUTHORITY NOTE: Promulgated in accordance with R.S. 3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:871 (August 1992).

§2305. Reserved.

§2307. Operation and Maintenance

A. General

1. Projects which are funded by the Port Construction and Development Priority Program are planned and implemented with their primary goal being the improvement of ports and harbors in the state. To assure that this goal is met after the project is completed, the program requires that the sponsor agrees to operate and maintain the project in accordance with an Operation and Maintenance Manual, which has been approved by the office.

2. Upon completion of the project, the sponsor shall submit to the office for review and approval, two copies of the Operation and Maintenance Manual which has been prepared by the sponsor's engineer in accordance with the Office's requirements. If the DOTD prepares the plans and specifications, the DOTD shall prepare the Operation and Maintenance Manual. Upon determining that the Manual meets the requirements of the office, written approval shall be sent to the sponsor by the office.

3. The sponsor shall operate and maintain the project in accordance with the approved Operation and Maintenance Manual for a minimum of three years. The office may inspect a completed project at any time to assure compliance. Noncompliance will cause the sponsor to be ineligible for funding of any subsequent project by the Port Construction and Development Priority Program.

B. Requirements

1. General Requirements

a. The sponsor shall appoint a superintendent who shall have the authority and responsibility to operate and maintain, in accordance with the approved Operation and Maintenance Manual, the structures and facilities that have been constructed by the funds provided by the Port Construction and Development Priority Program.

b. The sponsor shall advise the office in writing the name of the superintendent, his mailing address, home and business telephone numbers and will advise in writing of any changes.

c. The superintendent shall submit to the office an annual report covering inspections, problems and corrective actions taken.

d. A reserve supply of materials needed during an emergency shall be maintained.

e. Encroachments or trespasses which will adversely affect the operation and maintenance of the facilities shall not be permitted.

f. No improvements shall be passed over, under or through the walls, levees, channels or floodways, nor shall any excavation or construction be permitted within the limits of the project right-of-way, nor shall any changes be made to the structures and facilities without the review and written notice from the Office.

C. Format for Operation and Maintenance Manual. The format for the Operation and Maintenance Manual shall be as follows.

1. Project Summary

a. Identify

i. Parish

ii. Sponsoring Authority

iii. Project Name

iv. Person Responsible for Operation and Maintenance

(a). Name

(b). Mailing Address

(c). Telephone Number Business and Home

v. Contractor

(a). Name

(b). Mailing Address

(c). Telephone Number

vi. Engineer

(a). Name

(b). Mailing Address

(c). Telephone Number

vii. Brief Project Description

(a). Project Components

(b). General Location

b. History

2. Detailed Description of Project

a. Project Components

b. Location

3. Operation

a. Normal Procedures

b. Emergency Procedures

4. Maintenance

a. Inspecting

b. Testing

c. Lubricating

d. Trouble Shooting

e. Repairing

5. Appendix

a. As-Built Data

i. Final Estimate

ii. "As-Built" Plans

(a). Wiring Diagram[1]

(b). Plumbing Diagram[1]

(c). Testing Data[1]

b. Manufacturers' recommendations

i. Operation

ii. Maintenance

c. Suggested Forms

i. Operator's Log

ii. Maintenance Records

iii. Inspection Check List

iv. Repair and Cost Records

[1]If applicable

AUTHORITY NOTE: Promulgated in accordance with R.S. 3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:873 (August 1992).

§2309. Sample Agreement with Sponsor Responsible for Engineering

State of Louisiana
Department of Transportation and Development
Division of Flood Control and Water Management

State Project Number _____
Port Improvements to (Project Name)
(Sponsor's Name)

(Parish) Parish

THIS AGREEMENT, made and executed in three (3) original copies on this ____ day of _____, 20 __, by and between the Department of Transportation and Development, Division of Flood Control and Water Management, hereinafter referred to as "DOTD", and the (Sponsor's Name), a political subdivision of the State of Louisiana, hereinafter referred to as "Sponsor":

WITNESSETH: That;

WHEREAS, under the provisions of Title 34 of the Louisiana Revised Statutes of 1950, as amended, funds have been appropriated to finance Port improvement projects in the approved Port construction and Development Priority Program under the direct administration of the DOTD; and

WHEREAS, the Sponsor has requested and has received an appropriation of State funds to finance a portion of the port improvement project as described herein; and

WHEREAS, the Sponsor has self-generated funds available for its share of participation in the port improvement project; and

WHEREAS, the Sponsor agrees to furnish all lands, easements, rights-of-way and spoil disposal areas necessary to construct and maintain the project without cost to the State unless said lands are an integral part of the project and have been included in the Application recommended for funding; and

WHEREAS, the Sponsor agrees to assume all maintenance and operation costs for the project and all future alterations as may be required without cost to the State; and

WHEREAS, the Sponsor agrees to accomplish all necessary utility and any other facility relocations, alterations and maintenance without cost to the State; and

WHEREAS, the Sponsor agrees to provide at least twenty-five percent (25%) local participation for cost of the project; and

WHEREAS, the DOTD agrees to provide no more than seventy-five percent (75%) participation for the cost of the project or as modified by the Port Construction and Development Priority Program Rules and Regulations; and

NOW, THEREFORE, in consideration of the premises and mutual dependent covenants herein contained, the parties hereto agree as follows:

ARTICLE I PROJECT DESCRIPTION

The improvement that is to be undertaken under this project shall be port improvements consisting of (Project Description). The scope of the project shall be as shown in the approved application.

For purposes of identification and record keeping, a State Project Number has been assigned to this project as follows:

For construction costs, including testing, State Project No. _____ has been assigned. All progress reports, invoices, etc., incurred in the performance of these services shall be identified with this project number.

Project development and construction shall be in accordance with DOTD, Division of Flood Control and Water Management, "Port Construction and Development Priority Program Procedural Manual."

ARTICLE II FUNDING

Except for services hereinafter specifically listed to be furnished at the DOTD's expense or at the Sponsor's expense, as the case may be, the cost of this project will be a joint participation between the Sponsor and the DOTD. The Sponsor does, however, reserve the right to incorporate items

of work into the construction contract not eligible for State-Aid participation if it so desires. Funds will be disbursed as provided in Article VII.

ARTICLE III PRELIMINARY ENGINEERING

The Sponsor or Consulting Engineer employed by it shall make all necessary surveys and prepare plans, specifications and estimates for the project in accordance with the applicable Port Construction and Development Priority Program, DOTD requirements, and the following specific requirements:

1. If the Sponsor employs a Consulting Engineer, he shall follow procedures for evaluation of capabilities and selection of consultants, which have been approved by DOTD.

2. The design standards shall comply with the DOTD criteria. The format of the plans shall conform to the standards used by the DOTD in the preparation of its contract plans for items of work of similar character, including plans for all drainage and utilities affected, as contained in the current edition of its "Hydraulics Manual" and "General Guide for Bridge Plan Preparation" and "Roadway Plan Preparation Manual."

3. Design surveys, right-of-way surveys and the preparation of right-of-way maps shall be performed by the Sponsor in accordance with the requirements specified in the current edition of the DOTD "Location and Survey Manual."

4. After preliminary plans have been developed to show all information required, four (4) sets of prints shall be submitted to the DOTD for review and comments. If DOTD determines that a plan-in-hand inspection is required, one complete set of sepia reproducibles if required, shall be submitted to DOTD for its use in scheduling a plan-in-hand field inspection with members of DOTD, the Sponsor and/or its Consulting Engineer at a time and date mutually agreed to in advance by all parties.

Subsequent to the review and comments, the Sponsor shall make such changes in the plans as necessary to reflect agreements reached at this stage and shall show existing and taking lines required for rights-of-way.

5. Following the completion of preliminary plans four (4) complete sets of prints of the basic plans, dated and stamped "Advance Check Prints", together with four (4) draft copies of the bid proposal and four (4) copies of the project cost estimate shall be submitted to the DOTD for review and comment.

6. Specifications for the project shall be in accordance with the "Louisiana Standard Specification", latest revision, as amended to comply with the DOTD current practices. Any exceptions to use of these Standard Specifications shall have the prior approval of the DOTD.

7. Upon completion of its review of the Advance Check Prints, draft of the bid proposal and cost estimate, the DOTD will return one (1) set to the Sponsor with comments, if any, marked thereon and the above documents will be revised to reflect agreements reached.

8. The Sponsor may proceed with acquisition of right-of-way upon the completion of the Office's review of the design and right-of-way plans.

9. Subsequent to the completion of the Office's review of final plans, acquisition of all required rights-of-way and agreements to relocate and/or adjust all utility conflicts, and securing the Sponsor's portion of funds, the Sponsor shall adopt a Resolution certifying completion of the above and submit a certified copy of said Resolution to the Office.

ARTICLE IV RECEIPT OF BIDS

The Sponsor shall advertise and receive bids in accordance with the "Port Construction and Development Priority Program Procedural Manual" and generally as follows:

Construction projects are to be advertised for the receipt of bids on three separate occasions in the Sponsor's Official Journal plus any other publication to insure appropriate widespread advertisement commencing thirty (30) days prior to the bid date.

Upon advertising for bids the Sponsor shall add DOTD, Project Support Section to the bidder's list and forward three sets of plans and construction proposals marked "Not for Bid" to DOTD.

Following the receipt and extension of bids, a designated official representing the Sponsor shall affix his stamp thereto certifying the accuracy of the tabulation. In addition, a column containing estimated unit prices shall be added to the tabulation sheet with a summation reflecting the total estimate cost.

One copy of the bid tabulation shall be submitted to the DOTD along with a non-collusion affidavit, the Engineer's recommendation and a copy of the Sponsor's proposed action, (recommending acceptance of the bid to the lowest responsible bidder or rejection of all bids received). After review, the DOTD will make its recommendation to the Sponsor.

Following the executive of the contracts, two duplicate originals and three conformed copies shall be submitted to the DOTD for review. Upon written notice of the completion of the DOTD's review, the Sponsor will have an original of the contract and performance bond recorded in the mortgage records of the parish or parishes where the work is to be performed. A copy of the recordation data shall be furnished to the DOTD. The sponsor may proceed to issue the work order and will provide the DOTD with four copies of the work order when issued.

ARTICLE V CONSTRUCTION

The Sponsor or its Consultant will provide technical administration and inspection during the project construction; however, in the event a Consultant provides this service for the Sponsor, it will be performed under the direct supervision of a full time employee of the Sponsor who will have charge and control of the project at all times.

Except where a deviation has been mutually agreed to in writing by both DOTD and the Sponsor, the following specific requirements shall apply:

1. When it is stipulated in "Louisiana Standard Specifications" that approval by the Engineer or the DOTD is required for equipment and/or construction procedures, such approval must be obtained from the Project Engineer.

2. All construction inspection personnel utilized by the Sponsor and/or the Sponsor's consultant must meet the same qualifications required of DOTD construction personnel. When certification in a specific area is required, these personnel must meet the certification requirements of DOTD.

3. All construction procedures must be in accordance with DOTD guidelines and policies established by the "Construction Manual", Chapter IX, the "Engineering Directives and Standards Manual", and any applicable memoranda. These documents will be made available to the consultant through the Sponsor.

4. All documentation of pay quantities must conform to the requirement of DOTD as outlined in the "Construction Manual", Chapter VI. This manual will be made available to the consultant through the Sponsor.

5. All materials to be tested shall be sampled in accordance with a "Sampling Manual" prepared by the Project Engineer in cooperation with the DOTD District Laboratory Engineer in accordance with DOTD's Engineering Directives and Standards Manual III.5.1.2. All material testing other than those tests normally run by a project personnel on the job site shall be tested by the DOTD's District or Central Laboratory, or an approved testing laboratory.

The Consultant and/or the Sponsor shall be required to comply with all parts of this section while performing duties as Project Engineer.

ARTICLE VI INCIDENTAL COSTS

Incidental project costs incurred by the Sponsor in negotiating preliminary engineering contracts, right-of-way settlements, railroad and utility adjustments and for bid advertisements, contract recordation, and such other costs not provided in Article VII shall be the responsibility of the Sponsor.

Incidental project costs incurred by the DOTD for services relating to preliminary engineering right-of-way acquisitions, utility relocations, construction and construction engineering will be absorbed by DOTD.

ARTICLE VII PAYMENT

The DOTD shall pay the sponsor, monthly, seventy-five (75%) percent of the costs of construction or as modified by the Rules and Regulations, but not to exceed the amount made available by the Legislature which is ($ Louisiana Share). The Sponsor shall render invoices monthly for payment, which invoices shall be certified as correct by the Sponsor's Engineer and by the proper designated official of the Sponsor. All such charges shall be subject to verification, adjustment and/or settlement by the DOTD's Audit Officer.

In the event the Sponsor elects to utilize a Consulting Engineer to perform engineering services, it shall adhere to procedures for the selection and retainage of consultants which have been approved by DOTD prior to utilizing the Consulting Engineer under this project.

When the final cost of construction has been determined, adjustments will be made so that the amount of participation in these items will not exceed the authorized percentages. Before final payment is recommended by the DOTD, all documentation of pay quantities shall conform to DOTD policies and procedures. The Sponsor acknowledges, however, that the DOTD will not participate in the cost of those items not constructed in accordance with the approved plans and specifications and in this event the Sponsor will be obligated to assume full financial responsibility.

The participation by the DOTD in the project shall in no way be construed to make the DOTD a party to the contract between the Sponsor and its contractor.

ARTICLE VIII COST RECORDS

The Sponsor and all others employed by it in connection with this project shall maintain all books, documents, papers, accounting records and other evidence pertaining to costs incurred relative to this project and shall keep such material available at their respective offices at all reasonable times during the contract period and for three years from the date of final payment under the project, for inspection by the DOTD and/or Legislative Auditor, or any authorized representative of the State Government under State Regulations effective as of the date of this contract and copies thereof shall be furnished if requested.

ARTICLE IX CANCELLATION

In the event the Sponsor should desire to cancel the project prior to the receipt of bids, any cost that has been incurred for the preparation of plans will not be eligible for payment by the DOTD. If one (1) year should elapse from the date of funding by the Legislature and the submittal of preliminary engineering plans for the construction of said project, then this agreement will become null and void and the funds allocated for said project shall be reallocated.

ARTICLE X PROJECT RESPONSIBILITY

The DOTD, its officers, engineers and employees will not be required to supervise or perform such other services in connection with the development of this project except as specifically set forth herein; however, the Sponsor will assume full responsibility for the project development and will save and hold harmless the DOTD against any loss or damage of any kind incident to or occasioned by activities undertaken in pursuance of this agreement and expressly agrees to defend any suit brought against the DOTD, and pay any judgment which may result from said suit as it relates to the project.

ARTICLE XI FINAL INSPECTION, MAINTENANCE, AND MONITORING

Upon completion and final acceptance of the project, copy of which acceptance shall be furnished to the DOTD by the Sponsor, the Sponsor shall assume the operation and maintenance of the improvement at its expense and in accordance with the "Operation and Maintenance Manual" prepared by the Sponsor and approved by the DOTD. The final acceptance will be recorded by the Sponsor. Before making the final inspection, the DOTD, Division of Flood Control and Water Management, Project Support Chief shall be notified, so that he may have a representative present for such inspection.

Title to the project rights-of-way shall be vested in the Sponsor but shall be subject to Port Construction and Development Priority Program requirements and regulations concerning abandonment, disposal, encroachments and/or uses for port purposes as stated in the "Rules and Regulations".

The Sponsor shall monitor the project for at least three years as stated in the "Rules and Regulations".

ARTICLE XII PROGRESS SCHEDULE

Within thirty (30) days after this agreement is executed, the Sponsor shall submit to DOTD a Progress Schedule that indicates, using a bar graph, the various activities that must be accomplished to develop construction plans and specifications and let a construction contract within the time allotted. The schedule shall be submitted to the Project Support Section of the Division of Flood Control and Water Management of DOTD.

IN WITNESS WHEREOF, the parties hereto have caused these presents to be executed by their respective officers thereunto duly authorized as of the date and year first above written.

WITNESS: _____
Sponsor's Name

_____
Federal I.D.

By: _____
Title: _____

_____
Witness for First Party

_____
Witness for First Party

State of Louisiana
Department of Transportation and Development

By: _____
Secretary

_____
Witness for Second Party

Recommended for Approval

_____ By: _____
Witness for Second Party Chief Engineer

Recommended for Approval
By: _____
Chairman, Evaluation Committee

AUTHORITY NOTE: Promulgated in accordance with R.S. 3451-3463.

HISTORICAL NOTE: Promulgated by the Department of Transportation and Development, Division of Flood Control and Water Management, LR 18:874 (August 1992).

Title 56
PUBLIC WORKS
Index

Act 452 of 1989 Regular Session, Provisions of, 71
Actions, Enforcement, 3, 23, 32, 33
Advertising Procedures, 84
Agreement, Sample, with Sponsor Responsible for Engineering, 89
Appendix 1, Structures Approved Permit, 68
Appendix 2, Structures(Chief Engineer Review, 68
Appendix 3 Procedural Sequence, 68
Appendix 4 Pond Data Sheet, 69
Appendix 5 Notice of Application, 69
Appendix 6 Minimum Required Submittals, 69
Appendix 7 Letter of Intent, 70
Appendix 8 Letter of "Notice of Completion and As-Built Drawings", 70
Appendix 9 Letters of No Objection and Other Permits, 70
Appendix 10 Minimum Hydrologic and Hydraulic Submittals to Establish Impact Classification and Inflow Design Flood (IDF), 70
Applicability, 63
Application(s), 45, 75
  Format for, 45
  for Priority of Funding, 37
  for State Funding Assistance, Guidelines and Procedures for, 61
  General Instructions for Completing, 46
  Notice of, Appendix 5, 69
  Pertinent Information for Completing, 53
  Project, Review, 59
Approval(s)
  of Plans and Specifications for Public Water Supply Systems, 14
  Regulatory Agency, 40
Appurtenances, Standards for Miscellaneous, 22
Assistance, Guidelines and Procedures for Applications for State Funding, 61
Attachments, Instructions for Preparing, 44
Authorization, 1, 32
Availability of Water Well Data, 28
Base Priority Value, 38
Benefits, Priority Value Points for Comparative, 38
Casing, 18
Cementing the Annular Space, Methods and Standards for, 20
Conservation of Resources Required, 39
Construction, 16, 61, 66
Contamination, Location in Relation to Possible Sources of, 15
Contracting Procedures, 84
Contractor, Responsibilities of the, 28
Cost Estimates Required, Accurate, 39
Definitions, 4, 35, 72
Department
  Representatives, Site Inspection by the, 28
  Responsibility of the, 33
Design, 64
Device, Failure of Responsible Party to Install a Control, 33
Distribution of Funds, 59, 83
Drawings, As-Built, Letter of Notice of Completion and, Appendix 8, 70
Drilling, 16
Emergency Preparedness Plan, 67
Enforcement, 67
  Actions, 3, 23, 32, 33
Engineering
  Procedures, 84
  Sample Agreement with Sponsor Responsible for, 89
Evaluation, 82
  Procedure, Project, 57
Exemptions, 24
Filler Materials, 30
Flood Water, Location in Relation to, 16
Form(s)
  (DOTD-GW-2)
    Instructions for Completing Water Well Plugging and Abandonment, 27
    Submission of Water Well Plugging and Abandonment, 26
  Water Well Registration
    Long, 8
    Short, 12
Funding
  Applications for Priority of, 37
  Assistance, Guidelines and Procedures for Applications for State, 61
  Project Costs
    Eligible for Priority, 37
    Not Eligible for Priority, 37
  Projects
    Eligible for Priority of, 37
    Excluded from Priority of, 37
Funds, Distribution of, 59, 83
Glossary, 62
Guidelines and Procedures for Applications for State Funding Assistance, 61
Hearings, Public, 59
Inspection(s), 67
  Site, by the Department Representatives, 28
Instructions
  for Completing
    Application, General, 46
    Water Well Plugging and Abandonment Form (DOTD-GW-2), 27

for Preparing Attachments, 44
for Preparing Pre-Application, 42
Introduction, 61
Legislative Process, 60
Letter
of Intent, Appendix 7, 70
of "Notice of Completion and As-Built Drawings", Appendix 8, 70
Levees, Location in Relation to, 15
Licensing Requirements, 14, 25
Location in Relation
to Buildings, 16
to Flood Water, 16
to Levees, 15
to Possible Sources of Contamination, 15
Maintenance, 66, 88
Materials, Plugging and Filler, 30
Methods and Standards
for Cementing the Annular Space, 20
for Plugging Abandoned Water Wells and Holes, 30
Need, Verification of, 39
Notice of Completion, Letter of and As-Built Drawings, Appendix 8, 70
Office of Public Works, Ranking of Projects by the, 39
Operation(s), 61, 66, 88
Organization, 23
Overview, General, 38
Owner
Responsibility of the, 28, 33
to Plug an Abandoned Water Well, Failure of the, 28
Permits, Letters of No Objection and Other, Appendix 9, 70
Permitting, 63
Plans and Specifications for Public Water Supply Systems, Approval of, 14
Plugging Materials, 30
Policy, Priority, 35
Pond Data Sheet, Appendix 4, 69
Port Construction and Development Priority Program, 83
Preamble, 14
Pre-Application, Instructions for Preparing, 42
Priority
Funding
Project Costs Eligible for, 37
Project Costs Not Eligible for, 37
of Funding
Applications for, 37
Projects Eligible for, 37
Projects Excluded from, 37
Policy, 35
Ranking, Regional, 39
Value
Base, 38
Points
for Comparative Benefits, 38
to "Needing and Deserving", 39
Procedure(s)
Engineering, Advertising and Contracting, 84
Redistribution, 60
Program, 73
Project Evaluation, 57
Sequence, Appendix 3, 68
Program
Procedures, 73
Requirements, 73
Project(s)
Application Review, 59
by the Office of Public Works, Ranking of, 39
Costs
Eligible for Priority Funding, 37
Not Eligible for Priority Funding, 37
Eligible
for Priority of Funding, 37
Sponsors of, 36
Evaluation Procedure, 57
Excluded from Priority of Funding, 37
Priority Value Points to "Needing and Deserving", 39
Purpose, 1, 14, 24, 32, 61
of Rule, 35
Ranking of Projects by the Office of Public Works, 39
Redistribution Procedure, 60
References, 7, 68
Registration
Forms, Use of Information Obtained from, 3
of Water Wells and Holes
Completed on or after November 1, 1985, 1
Completed Prior to November 1, 1985, 3
Requirements, 15
Water Well
(Long Form), 8
(Short Form), 12
Regulations for Determining Status of Wells or Holes and for Determining Plugging Responsibility, 28
Regulatory Agency Approvals, 40
Report(s)
Annual, 36
Regional, 36
Requests, Variance, 15, 25
Requirements
for Locating a Water Well, Minimum Distance, 15
Licensing, 14, 25
Program, 73
Registration, 15
Resources Required, Conservation of, 39
Responsibilit(ies)y
of the Contractor, 28
of the Department, 33
of the Owner, 28, 33
Regulations for Determining Status of Wells or Holes and for Determining Plugging, 28
Responsible Party to Install a Control Device, Failure of, 33
Rule(s)
and Regulations, General, 24, 33
Purpose of, 35
Screen, 19
Sequence, 40
Specifications for Public Water Supply Systems, Approval of Plans and, 14
Sponsor(s)
of Projects, Eligible, 36
Responsible for Engineering, Sample Agreement with, 89

Standards
for Cementing the Annular Space, Methods and, 20
for Miscellaneous Appurtenances, 22
for Plugging Abandoned Water Wells and Holes, Methods and, 30
Structures
Approved Permit, Appendix 1, 68
Chief Engineer Review, Appendix 2, 68
Existing, 67
Submission of Water Well Plugging and Abandonment Forms (DOTD-GW-2), 26
Submittals, 64
Minimum Required, Appendix 6, 69
to Establish Impact Classification and Inflow Design Flood (IDF), Minimum Hydrologic and Hydraulic, Appendix 10, 70
Use of Information Obtained from Registration Forms, 3
Value
Base Priority, 38
Points
for Comparative Benefits, Priority, 38
to "Needing and Deserving" Projects, Priority, 39
Variance Requests, 15, 25
Water, Location in Relation to Flood, 16
Water Supply Systems, Approval of Plans and Specifications for Public, 14
Water Well(s)
and Holes
Completed
on or after November 1, 1985, Registration of, 1
Prior to November 1, 1985, Registration of, 3
Methods and Standards for Plugging Abandoned, 30
That Shall Be Plugged, Abandoned, 24
Data, Availability of, 28
Failure of the Owner to Plug an Abandoned, 28
Minimum Distance Requirements for Locating a, 15
Plugging and Abandonment Form (DOTD-GW-2),
Instructions for Completing, 27
Submission of, 26
Registration
(Long Form), 8
(Short Form), 12
Well(s)
Development, 21
Disinfection, 21
or Holes and for Determining Plugging Responsibility, Regulations for Determining Status of, 28